

BRIDGE AND APPROACHES - C.C.S.
 LETTING DATE: NOVEMBER 15, 2005

PROJECT NO. BROS-C024(68)--8J-24

CRAWFORD COUNTY

STANDARD ROAD PLANS					
THE FOLLOWING STANDARD ROAD PLANS SHALL BE CONSIDERED APPLICABLE TO CONSTRUCTION WORK ON THIS PROJECT.					
IDENT.	DATE	IDENT.	DATE	IDENT.	DATE
RC-16A	04-20-04	RE-69C	04-19-05	RL-1A	10-03-00
RC-16B	04-20-04	RE-76	04-19-05	RL-1B	10-03-00
				RL-7	12-03-96
RE-2B	04-03-01	RF-1	04-03-01	RL-14A(1)	04-19-05
RE-7	04-15-03	RF-3	10-03-00	RL-16	10-19-04
RE-12A	10-19-04	RF-5	10-03-00		
RE-12B	10-19-04			RS-2	10-27-98
RE-47	10-19-04	RF-14	10-18-05	RS-3	10-03-96
RE-48A	10-19-04	RF-30A	10-18-05	RS-27	10-28-97
RE-64B	04-19-05	RF-31	03-28-95		
RE-68	10-19-04	RF-32	03-28-95		

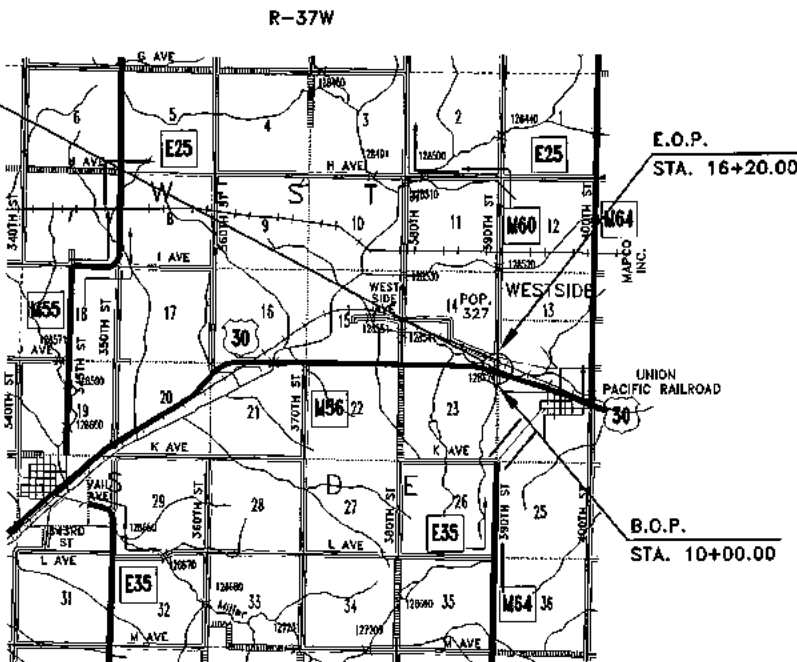
PROJECT TRAFFIC CONTROL PLAN

THIS ROAD WILL BE CLOSED TO THROUGH TRAFFIC DURING CONSTRUCTION. LOCAL TRAFFIC TO ADJACENT PROPERTIES WILL BE MAINTAINED AS PROVIDED FOR IN ARTICLE 1107.08 OF THE CURRENT STANDARD SPECIFICATIONS. TRAFFIC CONTROL DEVICES, PROCEDURES, LAYOUTS, SIGNING, AND PAVEMENT MARKINGS INSTALLED WITHIN THE LIMITS OF THIS PROJECT SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" AS ADOPTED BY THE DEPARTMENT PER 761 OF THE IOWA ADMINISTRATIVE CODE (IAC) CHAPTER 130.

THIS PROJECT (COE #2004-1506) IS COVERED BY U.S. ARMY CORPS OF ENGINEERS NATIONWIDE PERMIT #14.

IOWA DEPARTMENT OF NATURAL RESOURCES PERMIT NO. FP 2005-139, DATED : 7-25-05

B.O.P. STA. 10+00.00
 E.O.P. STA. 16+20.00
 STATION 12+15.00
 PROPOSED 125'-0 x 24'-6 CONTINUOUS CONCRETE SLAB BRIDGE
 30° SKEW, LT. AHEAD



150
 18/KGH

IOWA
 DEPARTMENT OF TRANSPORTATION
 Highway Division
 PLANS OF PROPOSED IMPROVEMENT ON THE
 SECONDARY ROADS SYSTEM
CRAWFORD COUNTY
 PROJECT NO. BROS-C024(68)--8J-24
BRIDGE AND APPROACHES - C.C.S.
 ON 390TH STREET OVER THE EAST BOYER RIVER
 ON THE WESTERN CORPORATE LIMITS OF WESTSIDE

THE IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, SERIES 2001, PLUS APPLICABLE GENERAL SUPPLEMENTAL SPECIFICATIONS, DEVELOPMENTAL SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS SHALL APPLY TO CONSTRUCTION WORK ON THIS PROJECT.

THIS PROJECT IS COVERED BY THE IOWA DEPARTMENT OF NATURAL RESOURCES NPDES GENERAL PERMIT NO. 2. THE CONTRACTOR SHALL CARRY OUT THE TERMS AND CONDITIONS OF GENERAL PERMIT NO. 2 AND THE STORM WATER POLLUTION PREVENTION PLAN WHICH IS A PART OF THESE CONTRACT DOCUMENTS. REFER TO SECTION 2602 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL INFORMATION.

DIVISION I - BRIDGE
 DIVISION II - GRADING

MILEAGE SUMMARY			
DIV.	LOCATION	LIN.FT.	MILES
	STA. 10+00.00 TO STA. 16+20.00	620.00	0.1174
I	BRIDGE AT STA. 12+15.00	128.46	0.0243
II	TOTAL NET LENGTH OF PROJECT (GRADING)	491.54	0.0931

1996, TRAFFIC COUNT = 120 V.P.D.

DRAWING APPROVAL
 ALL SHOP DRAWINGS AND FALSEWORK DRAWINGS THAT REQUIRE APPROVAL SHALL BE SUBMITTED TO AND APPROVED BY THE CONTRACTOR, WHO SHALL THEN SUBMIT THEM TO CALHOUN-BURNS AND ASSOCIATES, INC., FOR REVIEW AND APPROVAL.
 ADDRESS : 1801 FULLER ROAD, P.O. BOX 65859
 WEST DES MOINES, IOWA 50265
 TELEPHONE : (515) 224-4344
 THESE SHOP DRAWINGS SHALL NOT BE SENT TO IOWA D.O.T. OFFICE OF BRIDGES AND STRUCTURES.

PROJECT NO. BROS-C024(68)--8J-24
 FHWA NO. 128621

INDEX OF SHEETS

- TITLE SHEET
- QUANTITY SUMMARY
- DIVISION I - 125'-0 x 24'-6 C.C.S. BRIDGE
- SITUATION PLAN
- GENERAL NOTES
- SOUNDING DATA
- SUPERSTRUCTURE DETAILS AND POLLUTION PREVENTION PLAN
- DIVISION II - GRADING
- TYPICAL SECTIONS AND GRADING NOTES
- TABULATIONS
- PLAN AND PROFILE
- 10-12. CROSS SECTIONS

IOWA DEPARTMENT OF TRANSPORTATION STANDARDS REQUIRED		
STANDARD	DATE ISSUED	LATEST REVISION
J24-87	JANUARY, 1987	-
J24-5-87	JANUARY, 1987	-
J24-6-87	JANUARY, 1987	-
J24-7-87	JANUARY, 1987	-
J24-8-87	JANUARY, 1987	-
J24-16-87	JANUARY, 1987	-
J24-19-87	JANUARY, 1987	6-89
P10A	AUGUST 8, 1988	8-1-96

THESE SHEETS MAY BE OBTAINED AT THE OFFICE OF LOCAL SYSTEMS.

LOWELL G. MILLER
 14850

I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

Lowell G. Miller DATE: 7-1-05
 LOWELL G. MILLER, P.E.

MY LICENSE RENEWAL DATE IS DECEMBER 31, 2006.

PAGES OR SHEETS COVERED BY THIS SEAL:
 1-12 of 12

APPROVED
[Signature] 7/12/05
 CRAWFORD COUNTY ENGINEER DATE

[Signatures]
 BOARD OF SUPERVISORS DATE

24-C024-048

128622

**TOTAL ESTIMATED QUANTITIES: DIVISION I
125'-0 x 24'-6 C.C.S. BRIDGE**

REF.NO.	CODE NO.	ITEM	UNIT	2 ABUTS	2 PIERS	SUPERST.	TOTAL
1	2104-2710020	EXCAVATION, CLASS 10, CHANNEL	CU.YDS.	-	-	-	1,998
2	2401-8745850	REMOVAL OF EXISTING STRUCTURES	L.S.	-	-	-	1
3	2402-2720000	EXCAVATION, CLASS 20	CU.YDS.	70	-	-	70
4	2403-0100010	STRUCTURAL CONCRETE (BRIDGE)	CU.YDS.	21.0	-	239.9	260.9
5	2404-7775000	REINFORCING STEEL	LBS.	2,664	-	28,567	31,231
6	2404-7775005	REINFORCING STEEL, EPOXY COATED	LBS.	-	-	30,290	30,290
7	2414-8424120	CONCRETE OPEN RAILING	LIN.FT.	-	-	272.9	272.9
8	2501-5425042	PILES, DRIVE STEEL BEARING, HP 10x42; 10 @ 60'	LIN.FT.	600	-	-	600
9	2501-5425053	PILES, DRIVE STEEL BEARING, HP 12x53; 16 @ 70'	LIN.FT.	-	1,120	-	1,120
10	2501-5475053	CONC. ENCASE. OF STEEL H PILES, HP 12x53; (P10A TYPE 3); 16 @ 21'	LIN.FT.	-	336	-	336
11	2501-5550042	PILES, FURNISH STEEL BEARING, HP 10x42; 10 @ 60'	LIN.FT.	600	-	-	600
12	2501-5550053	PILES, FURNISH STEEL BEARING, HP 12x53; 16 @ 70'	LIN.FT.	-	1,120	-	1,120
13	2507-3250005	ENGINEERING FABRIC	SQ.YDS.	-	-	-	1,800
14	2507-6800061	REVTMENT, CLASS 'E'	TONS	-	-	-	1,250
15	2533-4990005	MOBILIZATION	L.S.	-	-	-	1

REF. NO. ESTIMATE REFERENCE INFORMATION

- INCLUDES COSTS TO CLEAR THE CHANNEL TO THE SHAPE, DEPTH, AND EXTENT SHOWN IN THE "LONGITUDINAL SECTION ALONG CENTERLINE OF ROADWAY" AND THE LIMITS SHOWN ON THE "SITUATION PLAN." APPROXIMATELY 119 C.Y. OF SUITABLE CLASS 10 CHANNEL MATERIAL SHALL BE USED TO SHAPE THE CHANNEL.
INCLUDES COST OF USING APPROXIMATELY 1,519 C.Y. OF SUITABLE MATERIAL FOR CONSTRUCTION OF APPROACH ROADWAY, GUARDRAIL BERMS, AND ENTRANCES IN ACCORDANCE WITH I.D.O.T. ROAD STANDARD RL-1A OR RL-1B SUITABLE SOILS SHALL BE AS DEFINED BY ARTICLE 2102.08 PARAGRAPH A2 OF THE STANDARD SPECIFICATIONS. UNSUITABLE OR EXCESS MATERIAL SHALL BE WASTED ON SITE.
- THE EXISTING BRIDGE IS A 50' x 18' STEEL PONY TRUSS WITH HIGH CONCRETE ABUTMENTS. THE STRUCTURE HAS A CONCRETE DECK.
THE LUMP SUM BID FOR "REMOVAL OF EXISTING STRUCTURES" SHALL INCLUDE REMOVAL AND DISPOSAL OF THE EXISTING STRUCTURE. ALL SALVAGEABLE MATERIAL AND UNSALVAGEABLE MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR. THE EXISTING STRUCTURE SHALL BE REMOVED TO AN ELEVATION AT LEAST 1' ± BELOW FINISHED GROUNDLINE AND TO THE EXTENT THAT IT WILL NOT INTERFERE WITH THE NEW CONSTRUCTION.
IT IS EXPECTED THAT PORTIONS OF EXISTING CONCRETE FOOTINGS AND WINGS WILL NEED TO BE COMPLETELY REMOVED, INCLUDING PULLING PILES, TO FACILITATE THE CONSTRUCTION OF THE NEW PIERS. THIS WORK SHALL BE INCLUDED IN "REMOVAL OF EXISTING STRUCTURES".
BROKEN CONCRETE FROM THE DECK AND BACKWALLS WITH A SIMILAR GRADATION TO CLASS 'E' REVTMENT MAY BE PLACED ON THE BANKS OUTSIDE THE LIMITS SHOWN FOR CLASS 'E' REVTMENT, AS DIRECTED BY THE ENGINEER. ALL REINFORCING SHALL BE CUT OFF FLUSH WITH THE CONCRETE. ALTERNATELY THE CONTRACTOR MAY DISPOSE OF THE BROKEN CONCRETE OFF SITE TO A LOCATION PROVIDED BY THE CONTRACTOR AND NOTED TO THE ENGINEER.
APPROXIMATELY 170 CU.YDS. OF EXISTING BROKEN CONCRETE ON CHANNEL BANKS WILL NEED TO BE REMOVED. SEE SITUATION PLANS FOR LOCATIONS. THIS MATERIAL MAY BE WASTED ON THE BANKS OUTSIDE THE LIMITS SHOWN FOR CLASS 'E' REVTMENT AFTER CHANNEL SHAPING IS COMPLETE. ALL REINFORCING SHALL BE CUT OFF FLUSH WITH THE CONCRETE. ALL H.M.A. MATERIAL IS SPECIFICALLY EXCLUDED. THIS WORK SHALL BE INCLUDED IN "REMOVAL OF EXISTING STRUCTURES".
SEE HAZARDOUS MATERIALS NOTES, SHEET 4, FOR PAINT SCRAPE SAMPLE RESULTS.
- INCLUDES COSTS OF USING SUITABLE CLASS 20 EXCAVATION TO CONSTRUCT GUARDRAIL BERMS AND APPROACH FILLS IN ACCORDANCE WITH I.D.O.T. ROAD STANDARD RL-1A OR RL-1B. UNSUITABLE OR EXCESS MATERIAL SHALL BE WASTED ON SITE. QUANTITY IS BASED ON THE ASSUMPTION THAT CHANNEL EXCAVATION AND NECESSARY BERM CONSTRUCTION HAVE BEEN COMPLETED.
- ALL STRUCTURAL CONCRETE FOR THE BRIDGE DECK IS TO BE CLASS "C"; SUBSTITUTION OF CLASS "D" CONCRETE IS NOT ALLOWED.
SUPERSTRUCTURE CONCRETE QUANTITY HAS BEEN INCREASED BY 0.5 C.Y. OVER QUANTITY SHOWN ON I.D.O.T. STANDARD J24-5-87 DUE TO SUBSTITUTION OF P10A TYPE 3 PILING IN MONOLITHIC PIER BENTS.
INCLUDES COST OF TAR PAPER.
NO ADDITIONAL PAYMENT WILL BE ALLOWED FOR HEATING AND PROTECTION OF CONCRETE, IF NECESSARY.
CERTIFIED PLANT INSPECTION IS REQUIRED.
- THE REINFORCING STEEL QUANTITY SHOWN IS FOR MONOLITHIC PIERS WITH SEVEN (8) STEEL H-PILES PER I.D.O.T. STANDARD SHEET J24-5-87, WHICH WILL REQUIRE FORTY-TWO (42) 5x1 PIER CAP STIRRUPS TOTALING 347 LBS.
THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT MANY OF THE REINFORCING BARS IN THE SLAB ARE TO BE EPOXY COATED. THE FOLLOWING BARS ARE TO BE EPOXY COATED:

BAR	WEIGHT
11b1	3,871
10b2	3,098
11b3	7,508
6b4	295
6b5	745
10b6	775
6b7	364
10b8	1,189
6b9	292
6d10	114
4d1	2,061
4d2	220
5d3	1,767
8e2	1,307
6e3	633
OPEN RAIL	6,032
TOTAL EPOXY COATED (LBS)	30,290

ALL REINFORCING SHALL BE GRADE 60.
- CERTIFIED PLANT INSPECTION IS REQUIRED.
- THE OVERHEAD POWER LINES WILL NOT BE RELOCATED FOR THIS PROJECT. SEE "GENERAL NOTES," SHEET 4, "SITUATION PLAN," SHEET 3 AND "PLAN AND PROFILE," SHEET 9 FOR ADDITIONAL INFORMATION.
- THE PILING ENCASEMENTS ARE TO EXTEND DOWN TO THE ELEVATIONS SHOWN ON THE PLANS, SHEET 3. THE UNIT PRICE BID FOR ENCASEMENT SHALL BE FULL PAYMENT FOR FURNISHING AND PLACING MATERIAL AND, WHERE NECESSARY, EXCAVATION.
SEE STANDARD P10A REVISED AUGUST 1, 1999 FOR DETAILS.
CAP STEEL IS REQUIRED.
- SEE "SITUATION PLAN, SHEET 3, AND PLAN AND PROFILE, SHEET 9 FOR LIMITS.
- REVTMENT IS TO BE PLACED AT A THICKNESS OF 1'-6". SEE "SITUATION PLAN, SHEET 3, AND PLAN AND PROFILE, SHEET 9 FOR LIMITS. THE UNIT PRICE BID FOR "REVTMENT, CLASS E" SHALL INCLUDE COST OF LABOR, EQUIPMENT, AND MATERIALS REQUIRED TO PLACE CLASS E REVTMENT STONE ON CHANNEL BANKS IN ACCORDANCE WITH SECTION 2507 OF THE STANDARD SPECIFICATIONS.
- INCLUDES MOBILIZATION FOR BOTH DIVISION I AND DIVISION II.

**TOTAL ESTIMATED QUANTITIES : DIVISION II
GRADING**

REF. NO.	CODE NO.	ITEM	UNIT	TOTAL
16	2101-0850002	CLEARING AND GRUBBING	UNITS	76.2
17	2102-2710070	EXCAVATION, CLASS 10, ROADWAY AND BORROW	CU.YDS.	2,114
18	2312-8260051	GRANULAR SURFACING ON ROAD, CLASS 'A' CRUSHED STONE	TONS	260
19	2416-0100048	APRONS, CONCRETE, 48 IN. DIA.	EACH	2
20	2416-1160048	CULVERT, CONCRETE ENTRANCE PIPE, 48 IN. DIA.	LIN.FT.	36
21	2417-0225018	APRONS, METAL, 18 IN. DIA.	EACH	1
22	2417-1040018	CULVERT, CORRUGATED METAL ENTRANCE PIPE, 18 IN. DIA.	LIN.FT.	72
23	2505-4008200	INSTALLATION OF GUARDRAIL	LIN.FT.	206.25
24	2505-4021690	GUARDRAIL, END ANCHORAGE, BEAM, RE-69	EACH	3
25	2505-4021762	GUARDRAIL TERMINAL, BEAM, FLARED RE-76	EACH	3
26	2518-6910000	SAFETY CLOSURE	EACH	2
27	2528-8445110	TRAFFIC CONTROL	L.S.	1
28	2528-8445112	FLAGGERS	DAYS	2
29	2601-2832110	FERTILIZING	ACRES	1.4
30	2601-2634100	MULCHING	ACRES	1.4
31	2601-2635015	NATIVE GRASS SEEDING	ACRES	1.4
32	2602-0000020	SILT FENCE	LIN.FT.	100
33	2602-0000030	SILT FENCE FOR DITCH CHECK	LIN.FT.	60
34	2602-0000090	CLEAN-OUT OF SILT FENCE	LIN.FT.	100
35	2602-0000100	CLEAN-OUT OF SILT FENCE FOR DITCH CHECK	LIN.FT.	60

REF. NO. ESTIMATE REFERENCE INFORMATION

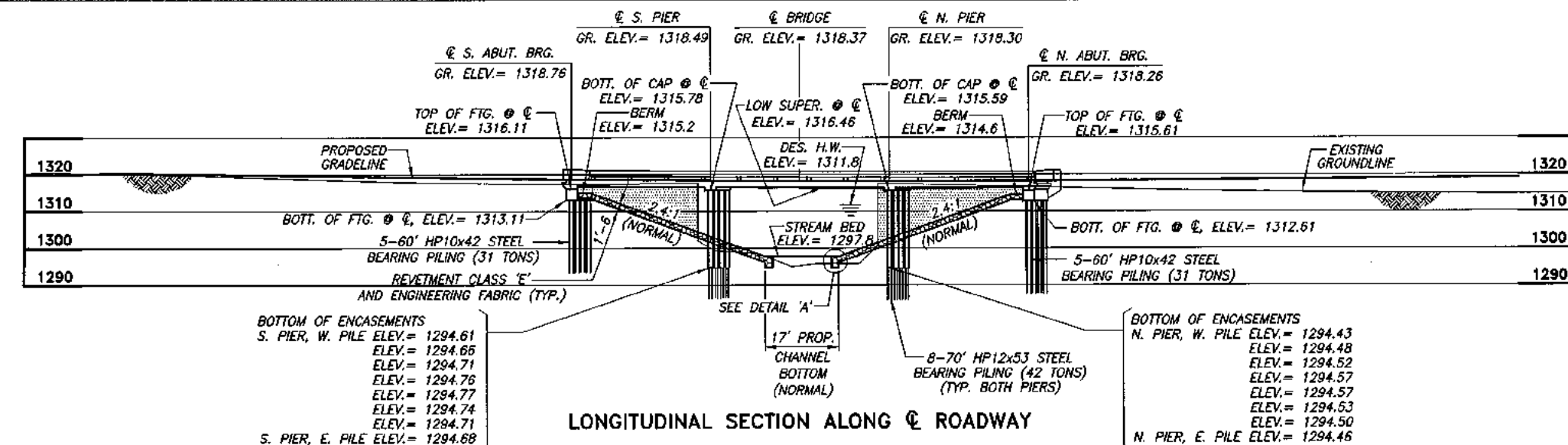
- SEE PLAN AND PROFILE SHEET FOR LIMITS.
SELECTIVE CLEARING WILL BE REQUIRED ON THIS PROJECT. ALL DESIRABLE TREES OUTSIDE THE CONSTRUCTION AREA WILL BE SAVED. TREES AND SHRUBS WITHIN THE CONSTRUCTION LIMITS THAT DO NOT HINDER CONSTRUCTION SHALL BE SAVED UNLESS DIRECTED BY THE ENGINEER TO BE REMOVED.
- THE APPROACH BERMS SHALL BE BUILT TO THE CONSTRUCTION LIMITS SHOWN AND SHALL BE IN PLACE BEFORE ABUTMENT PILES ARE DRIVEN. THE CONTRACTOR SHALL LEVEL AND SHAPE THE BERMS TO THE ELEVATIONS AND DIMENSIONS SHOWN ON THE SITUATION PLAN. DRESSING OF SLOPES OUTSIDE THE BRIDGE AREA NOT DISTURBED BY THE CONTRACTOR WILL BE PAID FOR AS EXTRA WORK.
ROADWAY CONSTRUCTION REQUIRES 3,833 C.Y. OF FILL MATERIAL. OF THIS, 2,114 C.Y. IS AVAILABLE FROM DITCH CUTS AND 1,519 C.Y. IS AVAILABLE FROM, AND WILL BE PAID AS, "EXCAVATION, CLASS 10, CHANNEL". TYPE "A" COMPACTION WILL BE REQUIRED. SEE TABULATIONS AND PLAN AND PROFILE SHEETS FOR BREAKDOWN OF EXCAVATION QUANTITIES. INCLUDES MATERIAL FOR INTERSECTION, BRIDGE APPROACHES AND ENTRANCES. THE QUANTITY INCLUDES AN ADDITIONAL 35% TO COMPENSATE FOR SHRINKAGE.
NO PAYMENT FOR OVERHAUL SHALL BE MADE ON THIS PROJECT.
PAY QUANTITY WILL BE PLAN QUANTITY ADJUSTED FOR OBVIOUS ERRORS, PLAN REVISIONS OR CHANGE ORDERS.
EXCEPT WHERE NOTED OTHERWISE ON THE PLANS, ALL ENTRANCE AND ROADWAY CULVERTS SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR AS PART OF "EXCAVATION, CLASS 10, ROADWAY AND BORROW".
MOISTURE SHALL BE APPLIED, AS NECESSARY, TO THE CONSTRUCTION AREA TO PREVENT THE SPREAD OF DUST NEAR RESIDENTIAL AREAS AND INDIVIDUAL HOMES. REFER TO ARTICLE 1107.07 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL DETAILS.
- SURFACING TO BE FURNISHED AND PLACED BY THE CONTRACTOR IN TWO PASSES (1400 AND 600 TONS /MILE). INCLUDES 70 TONS FOR DRIVES.
- SEE TABULATIONS, SHEET 8 AND SPECIAL DETAIL, SHEET 7.
- SEE TYPICAL SECTIONS AND GRADING NOTES, AND TABULATIONS, SHEET 8. THE EXTENSION OF THE 48" RCP UNDER THE RAILROAD WILL BE DONE BY CRAWFORD COUNTY FORCES BEFORE THIS PROJECT BEGINS.
ALL PIPE JOINTS SHALL BE TIED PER STANDARD ROAD PLAN RF-14.
- SEE TABULATIONS, SHEET 8.
- SEE TABULATIONS, SHEET 8.
ALL PIPE SHALL BE STANDARD CORRUGATIONS, NO HELICALLY CORRUGATED PIPE WILL BE ALLOWED. ALL CONNECTING BANDS SHALL BE 24" WIDE.
- SEE TABULATIONS, SHEET 8 AND STANDARD ROAD PLANS.
- SEE TABULATIONS, SHEET 8.
- SEE SHEETS 1 AND 8.
- INCLUDES HIGHWAY FLAGGERS, SEE RS-3. COST OF RAILROAD FLAGGER SHALL BE PAID AS DESCRIBED IN RAILROAD NOTES, SHEET 4.
- THE CONTRACTOR IS TO RESHAPE, FERTILIZE, SEED AND MULCH ANY AREAS DISTURBED DURING CONSTRUCTION TO THEIR ORIGINAL CONDITION. THIS SHALL BE INCLUDED IN THE PRICES BID FOR "NATIVE GRASS SEEDING", "FERTILIZING" AND "MULCHING."
- SEE TABULATIONS, SHEET 8 AND POLLUTION PREVENTION PLAN, SHEET 6.

**125'-0 x 24'-6 CONTINUOUS CONCRETE
SLAB BRIDGE**

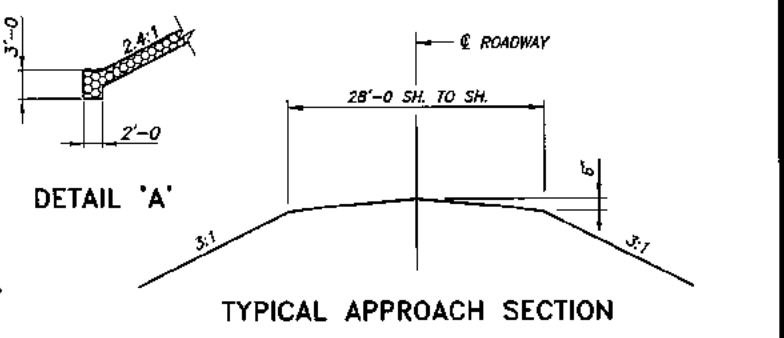
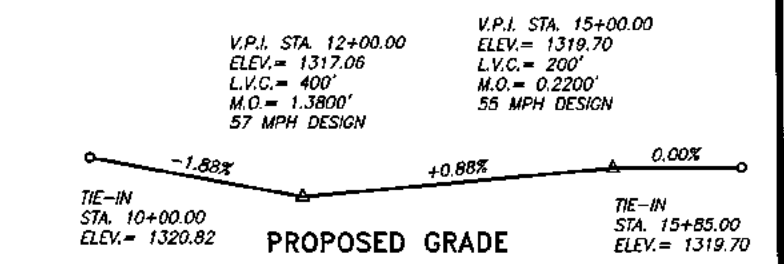
INTEGRAL ABUTMENTS MONOLITHIC P10A PIERS
38'-0 END SPANS 49'-0 INTERIOR SPAN

QUANTITY SUMMARY

STATION 12+15.00 30' SKEW, LT. AHEAD
CRAWFORD COUNTY, IOWA



BENCH MARK #1: PK NAIL IN SW WINGWALL OF 390TH STREET BRIDGE OVER EAST BOYER RIVER, ELEV. = 1317.74
 BENCH MARK #1A: RR SPIKE IN POWER POLE, AT NORTHEAST CORNER OF INTERSECTION OF HWY 30 AND 390TH STREET, ELEV. = 1314.73
 BENCH MARK #2A: RR SPIKE IN FIRST POWER POLE, NORTH OF BRIDGE, EAST SIDE OF 390TH STREET, ELEV. = 1313.37



LOCATION
 CRAWFORD COUNTY
 T-84N, R-37W
 SECTION 24
 WESTSIDE TOWNSHIP
 OVER EAST BOYER RIVER

HYDRAULIC DATA
 DRAINAGE AREA = 14.6 SQ. MI.
 DESIGN DISCHARGE = 3,500 C.F.S.
 DESIGN HIGH WATER ELEV. = 1311.8
 MANNING SLOPE = 0.002194 FT./FT.
 BRIDGE WATERWAY AREA = 674 SQ. FT.
 DESIGN VELOCITY = 5.2 F.P.S.
 Q25 = 3,500 C.F.S. STAGE ELEV. = 1311.8 (DESIGN)
 Q50 = 4,200 C.F.S. STAGE ELEV. = 1312.8
 Q100 = 5,100 C.F.S. STAGE ELEV. = 1313.9
 Q500 = 6,800 C.F.S. STAGE ELEV. = 1314.8
 EXT. H.W. ELEV. = UNKNOWN
 ANTICIPATED SCOUR ELEV. = 1292.7

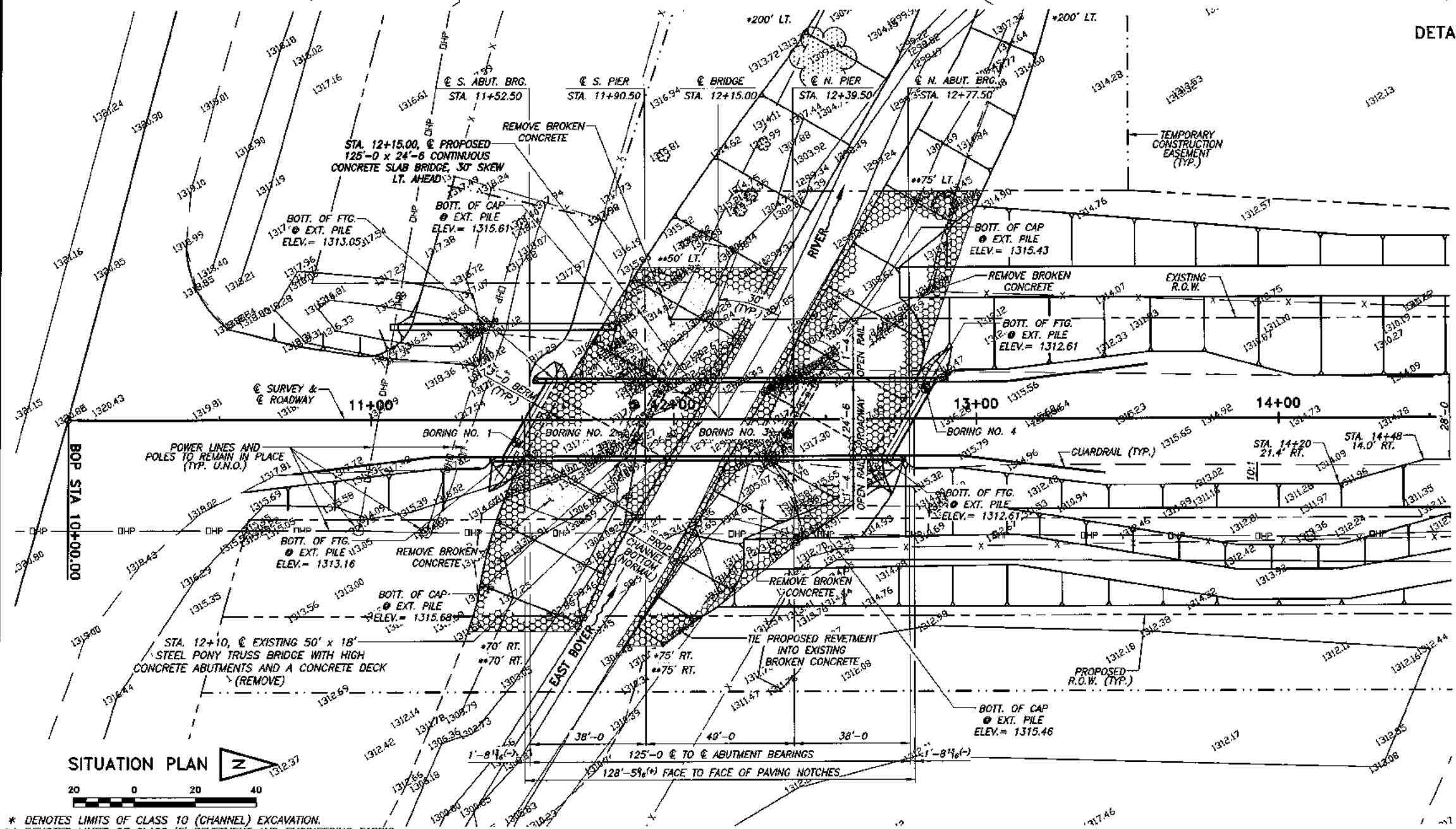
SEE PLAN AND PROFILE FOR ADDITIONAL INFORMATION.

125'-0 x 24'-6 CONTINUOUS CONCRETE SLAB BRIDGE

INTEGRAL ABUTMENTS 38'-0 END SPANS
 MONOLITHIC P10A PIERS 49'-0 INTERIOR SPAN

SITUATION PLAN

STATION 12+15.00 30' SKEW, LT. AHEAD
 CRAWFORD COUNTY, IOWA



SPECIFICATIONS

DESIGN: AASHTO SERIES OF 1983, PLUS INTERIM SPECIFICATIONS.
 CONSTRUCTION: STANDARD SPECIFICATION OF THE IOWA DEPARTMENT OF TRANSPORTATION, HIGHWAY DIVISION, SERIES OF 2001, PLUS APPLICABLE GENERAL SUPPLEMENTAL SPECIFICATIONS, DEVELOPMENTAL SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS SHALL APPLY TO CONSTRUCTION WORK ON THIS PROJECT.

DESIGN STRESSES

DESIGN STRESSES FOR THE FOLLOWING MATERIALS ARE IN ACCORDANCE WITH AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SERIES OF 1983, PLUS INTERIM SPECIFICATIONS.

CONCRETE	SECTION 8	f_c	=	3,500 PSI
REINFORCING STEEL	SECTION 8			
ASTM A615	GRADE 60,	f_s	=	24,000 PSI

GENERAL NOTES

THIS DESIGN IS FOR A 125'-0 x 24'-6 REINFORCED CONCRETE SLAB BRIDGE ON 390TH STREET OVER THE EAST BOYER RIVER IN CRAWFORD COUNTY, IOWA.

THIS BRIDGE IS DESIGNED FOR HS20-44 LOADING PLUS 20 LBS. PER SQ. FT. OF ROADWAY FOR FUTURE WEARING SURFACE.

ACCESS SHALL BE MAINTAINED TO INDIVIDUAL PROPERTIES DURING CONSTRUCTION. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.

THE ENGINEER WILL BE RESPONSIBLE FOR THE CONSTRUCTION SURVEY. THE CONTRACTOR IS RESPONSIBLE FOR CONDUCTING AN INDEPENDENT CHECK OF ALL CONSTRUCTION STAKES PLACED FOR THE PROJECT. THIS INDEPENDENT CHECK SHALL BE SUFFICIENT TO UNDERSTAND THE PLACEMENT AND INTENT OF THE STAKES.

THIS PROJECT IS TO BE BUILT UNDER THE CONDITIONS OF ARMY CORPS OF ENGINEERS 404 PERMIT NUMBER 2004-1506. THIS IS A NATIONWIDE PERMIT AND MAY CONTAIN SPECIAL CONDITIONS. WORK REQUIRED UNDER THIS PERMIT IS CONSIDERED INCIDENTAL TO OTHER WORK. A COPY OF THE PERMIT IS AVAILABLE AT THE COUNTY ENGINEER'S OFFICE. THE ARMY CORPS OF ENGINEERS RESERVES THE RIGHT TO VISIT THE SITE WITHOUT PRIOR NOTICE.

THE CONTRACTOR IS ENCOURAGED TO TAKE FULL ADVANTAGE OF SPECIFICATION 1105.15 - VALUE ENGINEERING INCENTIVE PROPOSAL, A PAMPHLET AND CONCEPTUAL PROPOSAL FORM WILL BE AVAILABLE AT THE PRECONSTRUCTION CONFERENCE.

STANDARD ROAD PLANS ARE AVAILABLE FROM THE IOWA DEPARTMENT OF TRANSPORTATION, HIGHWAY DIVISION, AMES, IOWA.

ARTICLE 2317 REGARDING BRIDGE DECK SMOOTHNESS DOES NOT APPLY TO THIS PROJECT.

UTILITY NOTES

THE CONTRACTOR SHALL VISIT THE CONSTRUCTION SITE TO ENSURE THAT HE IS FAMILIAR WITH THE EXISTING SITE CONDITIONS. THE CONTRACTOR WILL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE OWNERS OF ALL UTILITIES PRIOR TO THE BEGINNING OF CONSTRUCTION. ACCESS SHALL BE AFFORDED TO THESE FACILITIES FOR NECESSARY MODIFICATION OF SERVICES.

UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS. THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. IT IS POSSIBLE THERE ARE OTHERS, THE EXISTENCE OF WHICH IS NOT PRESENTLY KNOWN OR SHOWN. SHOULD ANY UTILITIES BE FOUND, THEY SHALL BE PROTECTED IN PLACE AND THE ENGINEER IMMEDIATELY NOTIFIED. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UTILITIES.

NO CLAIMS FOR ADDITIONAL COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR FOR INTERFERENCE, OR DELAY CAUSED BY UTILITY COORDINATION OR RELOCATION WORK.

UTILITY NOTES - OVERHEAD ELECTRIC

THE OVERHEAD POWER LINE AND POLES WILL NOT BE RELOCATED FOR THIS PROJECT EXCEPT AS NOTED. SEE PLAN AND PROFILE SHEETS FOR LOCATION OF POWER LINE AND POLES. THE CONTRACTOR IS REQUIRED TO COORDINATE HIS CONSTRUCTION ACTIVITIES WITH MIDAMERICAN ENERGY AND TO DETERMINE THEIR REQUIRED MINIMUM CLEARANCES BETWEEN THE POWER LINE AND CONSTRUCTION EQUIPMENT AND MATERIALS.

THE DESIGNATED MIDAMERICAN ENERGY CONTACT IS:

BRAD HANSEN (712) 792-7046 OFFICE
 (712) 830-0346 CELL

WASTE AND DISPOSAL NOTES

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE WASTE AREAS OR DISPOSAL SITES FOR EXCESS MATERIAL (EXCAVATED MATERIAL OR BROKEN CONCRETE) WHICH IS NOT DESIRABLE TO BE INCORPORATED INTO THE WORK INVOLVED ON THIS PROJECT. THESE AREAS SHALL NOT IMPACT WETLANDS OR "WATERS OF THE U.S." NO PAYMENT FOR OVERHAUL WILL BE ALLOWED FOR MATERIAL HAULED TO THESE SITES. NO MATERIAL SHALL BE PLACED WITHIN THE RIGHT-OF-WAY AND SHALL NOT CREATE AN UNSIGHTLY CONDITION WHEN VIEWED FROM PUBLIC HIGHWAYS, UNLESS SPECIFICALLY STATED IN THE PLANS OR APPROVED BY THE ENGINEER.

HAZARDOUS MATERIALS NOTES

A SCRAPE SAMPLE OF THE EXISTING PAINT WAS TAKEN TO GET AN INDICATION OF THE EXISTENCE AND LEVEL OF TOTAL CHROMIUM AND TOTAL LEAD. SAMPLE ANALYSIS OF TOTAL LEAD ON THIS SAMPLE WAS 28,400 MG/KG AND TOTAL CHROMIUM ON THIS SAMPLE WAS 3,950 MG/KG. THIS ANALYSIS SHOWS THE EXISTENCE OF THESE TWO TOXIC CONSTITUENTS. LEVELS INDICATED BY THESE TESTS COULD CREATE CONDITIONS ABOVE REGULATORY LIMITS FOR HEALTH AND SAFETY REQUIREMENTS. NO OTHER CONSTITUENTS WERE ANALYZED. THE BIDDER SHOULD NOT RELY ON THE COUNTY'S TESTING AND ANALYSIS FOR ANY PURPOSE OTHER THAN AS AN INDICATION OF THE EXISTENCE OF THESE TWO TOXIC CONSTITUENTS.

THE CONTRACTOR SHALL CONDUCT THEIR OPERATIONS IN SUCH A MANNER THAT ANY PAINT REMOVED DURING REMOVAL IS CONTAINED, COLLECTED, AND DISPOSED OF IN ACCORDANCE WITH ALL FEDERAL AND STATE REGULATIONS.

BEFORE DELIVERY OF ANY SCRAP STEEL THE CONTRACTOR SHALL PROVIDE A WRITTEN NOTICE TO THE RECEIVING FACILITY. THIS NOTICE SHALL AT A MINIMUM INCLUDE:

1. A NOTICE THAT THE SCRAP STEEL IS COATED WITH PAINT THAT HAS REGULATED MATERIALS AT LEVELS THAT COULD BE HAZARDOUS TO EMPLOYEES OR THE ENVIRONMENT.
2. A COPY OF THE SCRAPE SAMPLE PROVIDED IN THE CONTRACT DOCUMENTS.
3. A SIGNATURE BLOCK FOR THE RECEIVING FACILITY TO CONFIRM THEIR RECEIPT OF THIS INFORMATION.

A COPY OF THIS NOTICE, SIGNED BY THE RECEIVING FACILITY, SHALL BE RETURNED TO THE ENGINEER BEFORE ANY SCRAP STEEL IS REMOVED FROM THE PROJECT.

ALL COSTS ASSOCIATED WITH COMPLIANCE WITH THE ABOVE REMOVAL AND DISPOSAL REQUIREMENTS WILL BE INCIDENTAL TO "REMOVAL OF EXISTING STRUCTURES."

STREAM CROSSING NOTES

THE CONTRACTOR IS ENCOURAGED TO CONDUCT CONSTRUCTION ACTIVITIES DURING A PERIOD OF LOW FLOW. ANY TEMPORARY CROSSINGS SHALL INCLUDE ENOUGH CULVERTS TO ACCOMMODATE LOW FLOWS AND MUST BE REMOVED AFTER COMPLETION OF WORK ON THIS PROJECT. TEMPORARY STREAM CROSSINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD ROAD PLAN RL-16. THE COST OF INSTALLATION, MAINTENANCE, AND REMOVAL OF TEMPORARY CROSSINGS, INCLUDING CULVERTS, SHALL BE INCIDENTAL TO THE PROJECT.

EQUIPMENT FOR HANDLING AND CONVEYING MATERIALS DURING CONSTRUCTION SHALL BE OPERATED TO PREVENT DUMPING OR SPILLING THE MATERIAL INTO WATERBODIES, STREAMS OR WETLANDS EXCEPT AS APPROVED HEREIN.

CARE SHALL BE TAKEN TO PREVENT ANY PETROLEUM PRODUCTS, CHEMICALS, OR OTHER DELETERIOUS MATERIALS FROM ENTERING WATERBODIES, STREAMS OR WETLANDS.

CONSTRUCTION EQUIPMENT, ACTIVITIES, AND MATERIALS SHALL BE KEPT OUT OF THE STREAMS AND WETLANDS TO THE MAXIMUM EXTENT POSSIBLE.

PILE NOTES

MINIMUM BEARING CAPACITY IS TO BE 42 TONS PER PILE AT PIERS AND 31 TONS PER PILE AT ABUTMENTS.

ALL PILES ARE TO BE DRIVEN TO FULL PENETRATION, WHERE PRACTICABLE.

SOUNDING AND TEST BORING DATA SHOWN ON PLANS WERE ACCUMULATED FOR DESIGNING AND ESTIMATING PURPOSES. THEIR APPEARANCE ON THE PLAN DOES NOT CONSTITUTE A GUARANTEE THAT CONDITIONS OTHER THAN THOSE INDICATED WILL NOT BE ENCOUNTERED.

CONCRETE AND REINFORCING STEEL NOTES

ALL REINFORCING STEEL SHALL BE SECURELY WIRED IN PLACE BEFORE CONCRETE IS PLACED. BAR CHAIRS SPACED AT NOT MORE THAN 3'-0 CENTERS IN EITHER DIRECTION SHALL BE USED TO SUPPORT ALL REINFORCING IN ACCORDANCE WITH THE SECTION 2404 OF THE STANDARD SPECIFICATIONS.

THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT MANY OF THE REINFORCING BARS IN THE SLAB ARE TO BE EPOXY COATED. SEE ESTIMATE REFERENCE NOTES, SHEET 2 FOR ADDITIONAL INFORMATION. EPOXY COATING SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS OF THE IOWA DOT, HIGHWAY DIVISION.

TOP AND BOTTOM REINFORCING STEEL IS TO BE SUPPORTED AS NOTED ON STANDARD J24-5-87.

CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN.

ALL EXPOSED CORNERS 90 DEGREES OR SHARPER ARE TO BE FILLETED WITH A 3/4" DRESSED AND BEVELED STRIP.

CONCRETE PAVING BLOCKS ARE REQUIRED AND ARE TO REMAIN IN PLACE AFTER CONSTRUCTION.

THESE BRIDGE PLANS LABEL ALL REINFORCING STEEL WITH ENGLISH NOTATION (5a1 IS 5/8 INCH DIAMETER BAR). ENGLISH REINFORCING STEEL RECEIVED IN THE FIELD MAY DISPLAY THE FOLLOWING "BAR DESIGNATION". THE "BAR DESIGNATION" IS THE STAMPED IMPRESSION ON THE REINFORCING BARS, AND IS EQUIVALENT TO THE BAR DIAMETER IN MILLIMETERS.

ENGLISH SIZE	BAR DESIGNATION
3	10
4	13
5	16
6	19
7	22
8	25
9	29
10	32
11	36

CONTRACTOR'S WORK AREA

THE CONTRACTOR'S WORK AND MATERIAL STORAGE AREA SHALL BE DEFINED BY THE CONTRACTOR AND NOTED TO THE ENGINEER. THE CONTRACTOR SHALL SHAPE, FERTILIZE, AND SEED THIS CONTRACTOR'S AREA IN ORDER TO RETURN IT TO ITS ORIGINAL CONDITION. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR "NATIVE GRASS SEEDING", FERTILIZING AND "MULCHING" BID ITEMS. AREAS OUTSIDE THE CONTRACTOR'S AREA DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED TO THEIR ORIGINAL CONDITION, AS DETERMINED BY THE ENGINEER. NO ADDITIONAL PAYMENT WILL BE AUTHORIZED FOR THIS WORK.

RAILROAD NOTES

THE UNION PACIFIC RAILROAD COMPANY SHALL BE NOTIFIED BY THE CONTRACTOR IN WRITING AT LEAST TEN (10) WORKING DAYS PRIOR TO COMMENCING WORK. NOTICE SHALL BE GIVEN TO THE RAILROAD MANAGER OF TRACK MAINTENANCE.

THE RAILROAD WILL PROVIDE FLAGGERS UP AND DOWN THE TRACKS AT TIMES WHEN ANY MEN OR EQUIPMENT ARE OPERATING WITHIN 25.0 FEET OF THE CENTERLINE OF THE TRACK OR ANY TIME WORK IS OCCURRING ABOVE THE TRACK. THE CONTRACTOR SHALL NOTIFY THE RAILROAD AT LEAST 24 HOURS IN ADVANCE OF PROPOSED PERFORMANCE OF ANY WORK BY THE CONTRACTOR IN WHICH ANY PERSON OR EQUIPMENT WILL BE WITHIN 25.0 FEET OF THE TRACK. THE CONTRACTOR IS ENCOURAGED TO WORK IN A FASHION THAT WILL MINIMIZE FLAGGER DAYS NECESSARY.

THE COST OF PROVIDING FLAGGERS WILL BE PAID BY THE CONTRACTOR TO THE UNION PACIFIC RAILROAD. THE CONTRACTOR WILL BE REIMBURSED FOR ACTUAL CHARGES MADE BY THE RAILROAD THROUGH AN EXTRA WORK ORDER AS DESCRIBED IN ARTICLE 1109.03 OF THE STANDARD SPECIFICATIONS. NO MARK-UP BY THE CONTRACTOR WILL BE ALLOWED.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO KEEP THE RAILROAD TRACKS CONTINUALLY CLEAR OF DEBRIS AND CONSTRUCTION EQUIPMENT FOR A WIDTH OF NINE (9.0) FEET ALONG EACH SIDE OF THE CENTERLINE OF THE TRACKS DURING DAYTIME CONSTRUCTION ACTIVITIES. BEFORE LEAVING THE SITE EACH DAY, THE CONTRACTOR SHALL ENSURE THAT THE TRACK AREA IS CLEARED TO A WIDTH OF 30.0 FEET ALONG EACH SIDE OF THE CENTERLINE.

CONSTRUCTION OF A TEMPORARY CROSSING WILL NOT BE PERMITTED. ANY CROSSING(S) OF RAILROAD'S TRACKS SHALL OCCUR AT EXISTING OPEN PUBLIC CROSSING(S) ONLY.



**Remember to
Call Before You Dig!
1-800-292-8989**

Request Utility Locate 48 Hours In Advance

125'-0 x 24'-6 CONTINUOUS CONCRETE
 SLAB BRIDGE

INTEGRAL ABUTMENTS
 38'-0 END SPANS

MONOLITHIC P10A PIERS
 49'-0 INTERIOR SPAN

GENERAL NOTES

STATION 12+15.00
 CRAWFORD COUNTY,

30' SKEW, LT. AHEAD
 IOWA

BENCH MARK #1: PK NAIL IN SW WINGWALL OF 390TH STREET BRIDGE OVER EAST BOYER RIVER, ELEV. = 1317.74
 BENCH MARK #1A: RR SPIKE IN POWER POLE, AT NORTHEAST CORNER OF INTERSECTION OF HWY 30 AND 390TH STREET, ELEV. = 1314.73
 BENCH MARK #2A: RR SPIKE IN FIRST POWER POLE, NORTH OF BRIDGE, EAST SIDE OF 390TH STREET, ELEV. = 1313.37

BORING LOG NO. 1		STATION 11+48.8' RT		Project No.: 041603									
Surface Elevation: 1317.3'		Date Drilled: 12-15-04		Drilling Method: 4" CFA									
Datum: BM #1 = 1317.74'		Drilling Depth, ft.: 75		Page: 1 of 1									
Elevation ft.	Depth ft.	Sample No.	Type	SPT Blows	Mohr's Circle, %	Dry Density	Unconfined Compressive Strength, psf	Material Description*	Graphic Log	USCS	Water Level	Depth	Elevation ft.
1308	0							3" SAND AND GRAVEL Brown and dark brown mixed sandy lean clay, trace gravel, moist FILL (Stiff Sandy Clay)		CL		0.25	1317.05
	1	SS	5	26.4				Very dark gray lean clay, moist to very moist COHESIVE ALLUVIUM (Stiff Silty Clay)		CL			1313.3
	2	ST	34.6	82				Brown silty fine sand, moist GRANULAR ALLUVIUM (Silty Sand)		SM		11	1306.3
	3	SS	15					Brown fine to medium sand, wet		SP		16	1301.3
	4	SS	8					Coarse sand contact below 21' GRANULAR ALLUVIUM (Fine to Medium Sand)					
	5	SS	16										
													31.5 1285.8
								Dark gray silty clay, very moist		CL			
								COHESIVE ALLUVIUM (Stiff Silty Clay) Minor fine sand seams below 40'					
								Organic layer near 45'-46'				46	
								Gray gravelly fine to coarse sand, wet Possible large gravel or cobbles noted GRANULAR ALLUVIUM (Gravelly Sand)		GP		47	1271.3
								Dark gray sandy lean clay, trace gravel, damp to moist		CL		52	1265.3
								Dark gray fat clay, trace sand below 62' GLACIAL TILL (Cohesive or Glacial Material) Organic layer near 65'-65.5'		CH			
								Gray to light gray sandy lean clay, trace gravel below 70'		CL			
								End of Boring				75	1242.3

BORING LOG NO. 2		STATION 11+87.5' LT		Project No.: 041603									
Surface Elevation: 1317.3'		Date Drilled: 12-14-04		Drilling Method: 2.25" HSA									
Datum: BM #1 = 1317.74'		Drilling Depth, ft.: 76		Page: 1 of 1									
Elevation ft.	Depth ft.	Sample No.	Type	SPT Blows	Mohr's Circle, %	Dry Density	Unconfined Compressive Strength, psf	Material Description*	Graphic Log	USCS	Water Level	Depth	Elevation ft.
1308	0							Brown and dark brown mixed sandy lean clay, trace gravel, moist FILL (Stiff Sandy Clay)		CL			
	1	SS	4	13.2				Brown silty fine to medium sand, moist POSSIBLE FILL GRANULAR ALLUVIUM (Silty Sand)		SM		10	1307.7
	2	SS	4					Brown fine to medium sand, wet		SP			1300.7
	3	SS	3										
	4	SS	8					GRANULAR ALLUVIUM (Fine to Medium Sand)					
	5	SS	14										
	6	SS	21										
	7	SS	5	22.9				Dark gray silty clay, very moist		CL		33	1284.7
	8	SS	7	24.7				COHESIVE ALLUVIUM (Stiff Silty Clay) Minor fine sand seams below 40'					
	9	SS	8	21.1				Gray gravelly fine to coarse sand, wet Possible large gravel or cobbles noted GRANULAR ALLUVIUM (Gravelly Sand)		GP		47	1270.7 49.5 1268.2
	10	SS	18	13.6				Dark gray sandy lean clay, trace gravel, damp to moist		CL			
	11	SS	43	13.6									
	12	SS	50	12.9				GLACIAL TILL (Cohesive or Glacial Material) Possible organic layer near 63'-64' Dark gray sandy fat clay, below 65'		CH			
	13	SS	206	12.0									
	14	SS	38	17.3				Gray to light gray sandy lean clay, trace gravel below 72'		CL			
	15	SS	45	12.9				End of Boring				76	1241.7

BORING LOG NO. 3		STATION 12+38.5' RT		Project No.: 041603									
Surface Elevation: 1317.3'		Date Drilled: 12-15-04		Drilling Method: 4" CFA									
Datum: BM #1 = 1317.74'		Drilling Depth, ft.: 75		Page: 1 of 1									
Elevation ft.	Depth ft.	Sample No.	Type	SPT Blows	Mohr's Circle, %	Dry Density	Unconfined Compressive Strength, psf	Material Description*	Graphic Log	USCS	Water Level	Depth	Elevation ft.
1308	0							6" SAND AND GRAVEL Brown and dark brown mixed sandy lean clay, trace gravel, damp to moist Very sandy below 5' FILL (Stiff Sandy Clay)		CL		0.5	1317.1
	1												
	2							Very dark gray lean clay, minor sand, moist to very moist COHESIVE ALLUVIUM (Stiff Silty Clay)		CL		10	1307.6
	3							Gray very silty fine to medium sand, wet GRANULAR ALLUVIUM (Silty Sand)		SM		15	1302.6
	4							Brown fine to medium sand, wet		SP		18	1299.6
	5												
	6							GRANULAR ALLUVIUM (Fine to Medium Sand)					
	7												
	8							Gray silty clay, with sand seams, very moist		CL		33	1284.6
	9							COHESIVE ALLUVIUM Minor gravel below 41'					
	10							Gray gravelly fine to coarse sand, wet Possible large gravel or cobbles noted GRANULAR ALLUVIUM (Gravelly Sand)		GP		42	1274.6
	11							Dark gray sandy lean clay, trace gravel, damp to moist		CL		52	1265.6
	12							Dark gray fat clay, trace sand below 62' GLACIAL TILL (Cohesive or Glacial Material) Organic layer near 64'-64.5'		CH			
	13							Gray to light gray sandy lean clay, trace gravel below 71'		CL			
	14							End of Boring				75	1242.6

BORING LOG NO. 4		STATION 12+83.10' LT		Project No.: 041603									
Surface Elevation: 1316.4'		Date Drilled: 12-14-04		Drilling Method: 2.25" HSA									
Datum: BM #1 = 1317.74'		Drilling Depth, ft.: 76		Page: 1 of 1									
Elevation ft.	Depth ft.	Sample No.	Type	SPT Blows	Mohr's Circle, %	Dry Density	Unconfined Compressive Strength, psf	Material Description*	Graphic Log	USCS	Water Level	Depth	Elevation ft.
1308	0							3" SAND AND GRAVEL Brown and dark brown lean clay, trace sand, moist FILL (Stiff Silty Clay)		CL		0.25	1316.15
	1	SS	9	22.4				Very dark gray lean clay, minor sand, moist to very moist COHESIVE ALLUVIUM (Stiff Silty Clay)		CL		6	1310.4
	2	SS	14	18.8				Brown silty fine to medium sand, moist GRANULAR ALLUVIUM (Silty Sand)		SM		12.5	1303.9
	3	SS	11					Brown fine to medium sand, wet		SP		17	1299.4
	4	SS	4										
	5	SS	17					GRANULAR ALLUVIUM (Fine to Medium Sand)					
	6	SS	16										
	7	SS	5	19.7				Gray silty clay, trace fine sand, very moist		CL		35	1281.4
	8	SS	7	23.0				COHESIVE ALLUVIUM (Stiff Silty Clay) Gray gravelly fine to coarse sand, wet Possible large gravel or cobbles noted		GP		42	1274.4
	9	SS	18					GRANULAR ALLUVIUM (Gravelly Sand)					
	10	SS	16					Dark gray sandy lean clay, trace gravel, damp to moist		CL		51	1265.4
	11	SS	35	12.2									
	12	SS	35	13.2				GLACIAL TILL (Cohesive or Glacial Material) Organic layer near 64.5'-65.5' Dark gray fat clay, trace sand below 65.5'		CH			
	13	SS	54	24.6									
	14	SS	40	15.7				Gray to light gray sandy lean clay, trace gravel, below 70'		CL			
	15	SS	49	15.5				End of Boring				76	1240.4

SOUNDING DATA

(SEE "SITUATION PLAN", SHEET 3 FOR BORING LOCATIONS)

GEOTECHNICAL INFORMATION PROVIDED HEREWITH IS THE SOLE RESPONSIBILITY OF ALLENDER BUTZKE ENGINEERS, INC., WHOSE GEOTECHNICAL REPORT DATED 12-27-04, COMPLETE WITH THE LICENSED ENGINEER'S SEAL AND CERTIFICATION, IS AVAILABLE FOR VIEWING.

125'-0 x 24'-6 CONTINUOUS CONCRETE SLAB BRIDGE

INTEGRAL ABUTMENTS 38'-0 END SPANS MONOLITHIC P10A PIERS 49'-0 INTERIOR SPAN

SOUNDING DATA

STATION 12+15.00 30° SKEW, LT. AHEAD CRAWFORD COUNTY, IOWA

POLLUTION PREVENTION PLAN

110-12A
10-29-02

ALL CONTRACTORS/SUBCONTRACTORS SHALL CONDUCT THEIR OPERATIONS IN A MANNER THAT MINIMIZES EROSION AND PREVENTS SEDIMENTS FROM LEAVING THE HIGHWAY RIGHT-OF-WAY. THE PRIME CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE AND IMPLEMENTATION OF THE POLLUTION PREVENTION PLAN (PPP) FOR THEIR ENTIRE CONTRACT. THIS RESPONSIBILITY SHALL BE FURTHER SHARED WITH SUBCONTRACTORS WHOSE WORK IS A SOURCE OF POTENTIAL POLLUTION AS DEFINED IN THIS PPP.

1. SITE DESCRIPTION

THIS POLLUTION PREVENTION PLAN (PPP) IS FOR THE CONSTRUCTION OF A 125'-0" X 24'-6" REINFORCED CONCRETE SLAB BRIDGE ON 390TH STREET OVER THE EAST BOYER RIVER IN CRAWFORD COUNTY, IA.

THIS PPP COVERS APPROXIMATELY 2.27 ACRES WITH AN ESTIMATED 2.27 ACRES BEING DISTURBED. THE PORTION OF THE PPP COVERED BY THIS CONTRACT HAS 2.27 ACRES DISTURBED.

THE PPP IS LOCATED IN AN AREA OF MARSHALL SOIL ASSOCIATION. THE ESTIMATED AVERAGE NRCS RUNOFF CURVE NUMBER FOR THIS PPP AFTER COMPLETION WILL BE 63.

REFER TO THE PROJECT PLANS FOR LOCATIONS OF TYPICAL SLOPES, DITCH GRADES, AND MAJOR STRUCTURAL AND NON-STRUCTURAL CONTROLS. A COPY OF THIS PLAN WILL BE ON FILE AT THE COUNTY ENGINEER'S OFFICE. RUNOFF FROM THIS WORK WILL FLOW INTO THE EAST BOYER RIVER.

POTENTIAL SOURCES OF POLLUTION:

SITE SOURCES OF POLLUTION GENERATED AS A RESULT OF THIS WORK RELATE TO SILTS AND SEDIMENT WHICH MAY BE TRANSPORTED AS A RESULT OF A STORM EVENT. HOWEVER, THIS PPP PROVIDES CONVEYANCE FOR OTHER (NON-PROJECT RELATED) OPERATIONS. THESE OTHER OPERATIONS HAVE STORM WATER RUNOFF, THE REGULATION OF WHICH IS BEYOND THE CONTROL OF THIS PPP. POTENTIALLY THIS RUNOFF CAN CONTAIN VARIOUS POLLUTANTS RELATED TO SITE-SPECIFIC LAND USES. EXAMPLES ARE:

RURAL AGRICULTURAL ACTIVITIES:

RUNOFF FROM AGRICULTURAL LAND USE CAN POTENTIALLY CONTAIN CHEMICALS INCLUDING HERBICIDES, PESTICIDES, FUNGICIDES AND FERTILIZERS.

COMMERCIAL AND INDUSTRIAL ACTIVITIES:

RUNOFF FROM COMMERCIAL AND INDUSTRIAL LAND USE MAY CONTAIN CONSTITUENTS ASSOCIATED WITH THE SPECIFIC OPERATION. SUCH OPERATIONS ARE SUBJECT TO POTENTIAL LEAKS AND SPILLS WHICH COULD BE COMMINGLED WITH RUNOFF FROM THE FACILITY. POLLUTANTS ASSOCIATED WITH COMMERCIAL AND INDUSTRIAL ACTIVITIES ARE NOT READILY AVAILABLE SINCE THEY ARE TYPICALLY PROPRIETARY.

2. CONTROLS

AT LOCATIONS WHERE RUNOFF CAN MOVE OFFSITE, SILT FENCE SHALL BE PLACED ALONG THE PERIMETER OF THE AREAS TO BE DISTURBED PRIOR TO BEGINNING GRADING, EXCAVATION OR CLEARING AND GRUBBING OPERATIONS. VEGETATION IN AREAS NOT NEEDED FOR CONSTRUCTION SHALL BE PRESERVED. AS AREAS REACH THEIR FINAL GRADE, ADDITIONAL SILT FENCES, SILT BASINS, INTERCEPTING DITCHES, SOIL FLUMES, LETDOWNS, BRIDGE END DRAINS, AND EARTH DIKES SHALL BE INSTALLED AS SPECIFIED IN THE PLANS AND/OR AS REQUIRED BY THE PROJECT ENGINEER. THIS WILL INCLUDE USING SILT FENCE AS DITCH CHECKS AND TO PROTECT INTAKES. TEMPORARY STABILIZING SEEDING SHALL BE COMPLETED AS THE DISTURBED AREAS ARE CONSTRUCTED. IF CONSTRUCTION ACTIVITY IS NOT PLANNED TO OCCUR IN A DISTURBED AREA FOR AT LEAST 21 DAYS, THE AREA SHALL BE STABILIZED BY TEMPORARY SEEDING OR MULCHING WITHIN 14 DAYS. OTHER STABILIZING METHODS SHALL BE USED OUTSIDE THE SEEDING TIME PERIOD.

THIS WORK SHALL BE DONE IN ACCORDANCE WITH SECTION 2602 OF THE STANDARD SPECIFICATIONS. IF THE WORK INVOLVED IS NOT APPLICABLE TO ANY CONTRACT ITEMS, THE WORK SHALL BE PAID FOR ACCORDING TO ARTICLE 1109.03 PARAGRAPH B.

AS THE WORK PROGRESSES, ADDITIONAL EROSION CONTROL ITEMS MAY BE REQUIRED AS DETERMINED BY THE ENGINEER AFTER FIELD INVESTIGATION. THESE MAY BE ITEMS SUCH AS LETDOWN STRUCTURES, SOIL STABILIZATION MATS AND OTHER APPROPRIATE MEASURES SHALL BE INSTALLED BY CONTRACTOR, AS DIRECTED BY THE ENGINEER. THE CONTRACTOR WILL COMPLETE THE CONSTRUCTION WITH THE ESTABLISHMENT OF PERMANENT PERENNIAL VEGETATION OF ALL DISTURBED AREAS.

3. OTHER CONTROLS

CONTRACTOR DISPOSAL OF UNUSED CONSTRUCTION MATERIALS AND CONSTRUCTION MATERIAL WASTES SHALL COMPLY WITH APPLICABLE STATE AND LOCAL WASTE DISPOSAL, SANITARY SEWER, OR SEPTIC SYSTEM REGULATIONS. IN THE EVENT OF A CONFLICT WITH OTHER GOVERNMENTAL LAWS, RULES AND REGULATIONS, THE MORE RESTRICTIVE LAWS, RULES OR REGULATIONS SHALL APPLY.

APPROVED STATE OR LOCAL PLANS:

DURING THE COURSE OF THIS CONSTRUCTION, IT IS POSSIBLE THAT SITUATIONS WILL ARISE WHERE UNKNOWN MATERIALS WILL BE ENCOUNTERED. WHEN SUCH SITUATIONS ARE ENCOUNTERED, THEY WILL BE HANDLED ACCORDING TO ALL FEDERAL, STATE, AND LOCAL REGULATIONS IN EFFECT AT THE TIME.

4. MAINTENANCE

THE CONTRACTOR IS REQUIRED TO MAINTAIN ALL TEMPORARY EROSION CONTROL MEASURES IN PROPER WORKING ORDER, INCLUDING CLEANING, REPAIRING, OR REPLACING THEM THROUGHOUT THE CONTRACT PERIOD. CLEANING OF SILT CONTROL DEVICES SHALL BEGIN WHEN THE FEATURES HAVE LOST 50% OF THEIR CAPACITY.

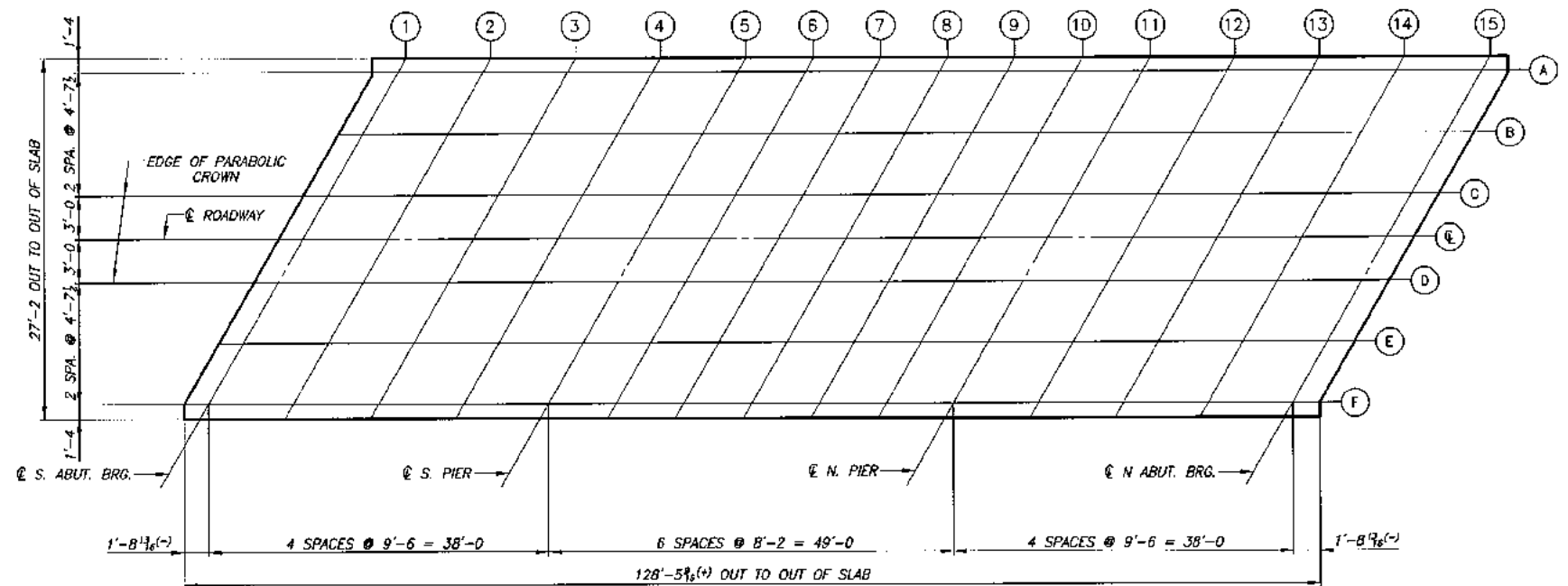
5. INSPECTIONS

INSPECTIONS SHALL BE MADE JOINTLY BY THE CONTRACTOR AND THE CONTRACTING AUTHORITY EVERY SEVEN CALENDAR DAYS AND AFTER EACH RAIN EVENT THAT IS ONE HALF INCH OR GREATER. THE CONTRACTOR SHALL IMMEDIATELY BEGIN CORRECTIVE ACTION ON ALL DEFICIENCIES FOUND. THE FINDINGS OF THIS INSPECTION SHALL BE RECORDED IN THE PROJECT DIARY. THIS PPP MAY BE REVISED BASED ON THE FINDINGS OF THE INSPECTION. THE CONTRACTOR SHALL IMPLEMENT ALL REVISIONS. ALL CORRECTIVE ACTIONS SHALL BE COMPLETED WITHIN 3 CALENDAR DAYS OF THE INSPECTION.

6. NON-STORM DISCHARGES

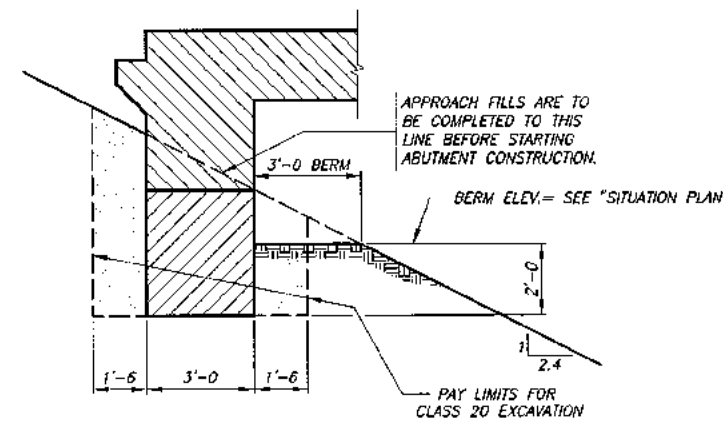
THIS INCLUDES SUBSURFACE DRAINS (I.E. LONGITUDINAL AND STANDARD SUBDRAINS), SLOPE DRAINS AND BRIDGE END DRAINS. THE VELOCITY OF THE DISCHARGE FROM THESE FEATURES MAY BE CONTROLLED BY THE USE OF PATIO BLOCKS, CLASS A STONE OR EROSION STONE.

BENCH MARK #1: PK NAIL IN SW WINGWALL OF 390TH STREET BRIDGE OVER EAST BOYER RIVER, ELEV.= 1317.74
BENCH MARK #1A: RR SPIKE IN POWER POLE, AT NORTHEAST CORNER OF INTERSECTION OF HWY 30 AND 390TH STREET, ELEV.=1314.73
BENCH MARK #2A: RR SPIKE IN FIRST POWER POLE, NORTH OF BRIDGE, EAST SIDE OF 390TH STREET, ELEV.= 1313.37



TOP OF SLAB ELEVATIONS

LOCATION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	LOCATION
A	1318.54	1318.47	1318.40	1318.34	1318.29	1318.25	1318.22	1318.19	1318.16	1318.14	1318.12	1318.11	1318.10	1318.10	1318.10	A
B	1318.63	1318.56	1318.49	1318.43	1318.38	1318.33	1318.30	1318.27	1318.24	1318.22	1318.20	1318.18	1318.17	1318.17	1318.17	B
C	1318.72	1318.65	1318.58	1318.52	1318.46	1318.42	1318.38	1318.35	1318.32	1318.29	1318.27	1318.26	1318.24	1318.24	1318.24	C
D	1318.78	1318.68	1318.61	1318.55	1318.49	1318.45	1318.41	1318.37	1318.34	1318.32	1318.30	1318.28	1318.27	1318.26	1318.26	D
E	1318.75	1318.67	1318.60	1318.54	1318.48	1318.44	1318.40	1318.36	1318.33	1318.30	1318.28	1318.26	1318.25	1318.24	1318.24	E
F	1318.70	1318.62	1318.55	1318.49	1318.43	1318.38	1318.34	1318.30	1318.27	1318.24	1318.22	1318.20	1318.18	1318.17	1318.17	F
	1318.66	1318.58	1318.50	1318.43	1318.37	1318.32	1318.28	1318.24	1318.21	1318.18	1318.15	1318.13	1318.11	1318.10	1318.10	



ABUTMENT EXCAVATION DETAIL

125'-0" x 24'-6" CONTINUOUS CONCRETE SLAB BRIDGE

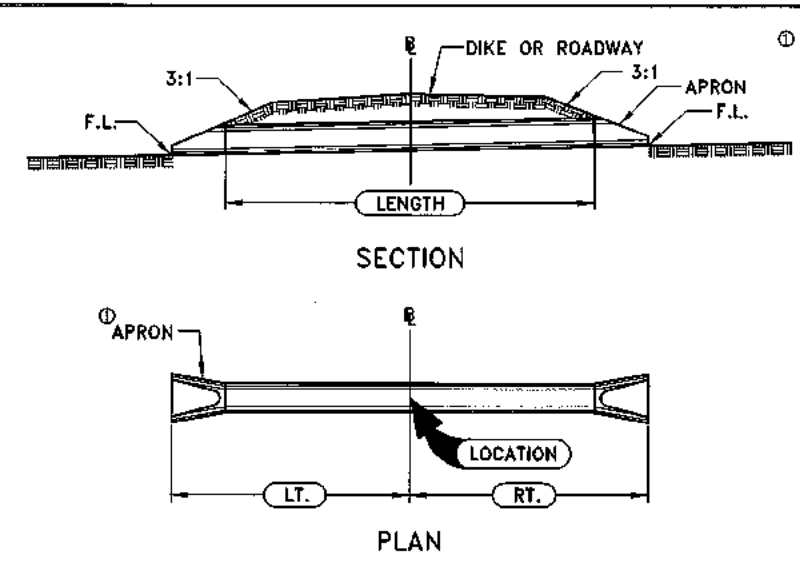
INTEGRAL ABUTMENTS 38'-0" END SPANS
MONOLITHIC P10A PIERS 49'-0" INTERIOR SPAN

SUPERSTRUCTURE DETAILS AND POLLUTION PREVENTION PLAN

STATION 12+15.00 30' SKEW, LT. AHEAD
CRAWFORD COUNTY, IOWA

BENCH MARK #1: PK NAIL IN SW WINGWALL OF 390TH STREET BRIDGE OVER EAST BOYER RIVER, ELEV.= 1317.74
 BENCH MARK #1A: RR SPIKE IN POWER POLE, AT NORTHEAST CORNER OF INTERSECTION OF HWY 30 AND 390TH STREET, ELEV.=1314.73
 BENCH MARK #2A: RR SPIKE IN FIRST POWER POLE, NORTH OF BRIDGE, EAST SIDE OF 390TH STREET, ELEV.= 1313.37

1101
 07-21-87



NOTES:
 C SHALL BE C OF ROADWAY, DIKE, SURVEY, OR OTHER, AS DETAILED ON PLANS.
 SKEW ANGLE IS THE ANGLE WHICH ONE END OF THE PIPE IS AHEAD (BY STATIONING) OF LINE PERPENDICULAR TO THE C (EXAMPLE SKEW RT. AHEAD 30°).
 REFER TO TABULAR LISTING AND OTHER PLANS FOR ADDITIONAL INFORMATION.
 (1) SEE STANDARD ROAD PLAN RF-3 FOR CONC. OR RF-5 FOR METAL.

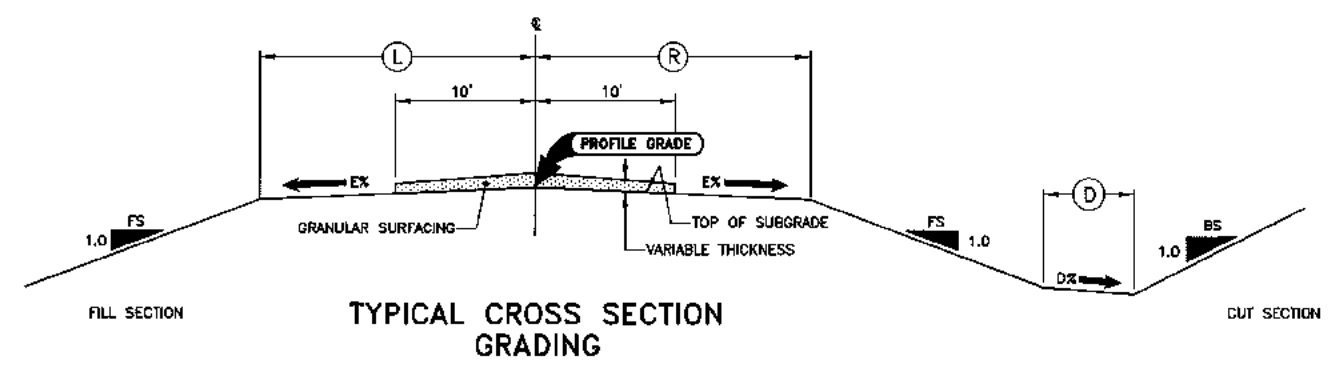
PIPE CULVERT

GRADING NOTES

PLAN AND PROFILE SHEETS INCLUDED IN THE PROJECT ARE FOR PURPOSE OF ALIGNMENT, LOCATION AND SPECIAL DIRECTION FOR THE WORK TO BE PERFORMED UNDER THIS CONTRACT. IRRELEVANT DATA ON THESE SHEETS IS NOT TO BE CONSIDERED A PART OF THIS CONTRACT.
 THE CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN ACCESS TO INDIVIDUAL PROPERTIES DURING CONSTRUCTION. RELOCATED ACCESS SHALL BE COMPLETED TO INDIVIDUAL PROPERTIES PRIOR TO REMOVAL OF EXISTING ACCESS. IF THE PERMANENT ACCESS CANNOT BE COMPLETED PRIOR TO REMOVAL OF THE EXISTING ACCESS, AN ALTERNATE ACCESS SHALL BE PROVIDED AND MAINTAINED. THIS WORK WILL BE CONSIDERED INCIDENTAL TO THE PROJECT.
 STANDARD ROAD PLANS ARE AVAILABLE FROM THE IOWA DEPARTMENT OF TRANSPORTATION, HIGHWAY DIVISION, AMES, IOWA.

EXCAVATION AND BORROW

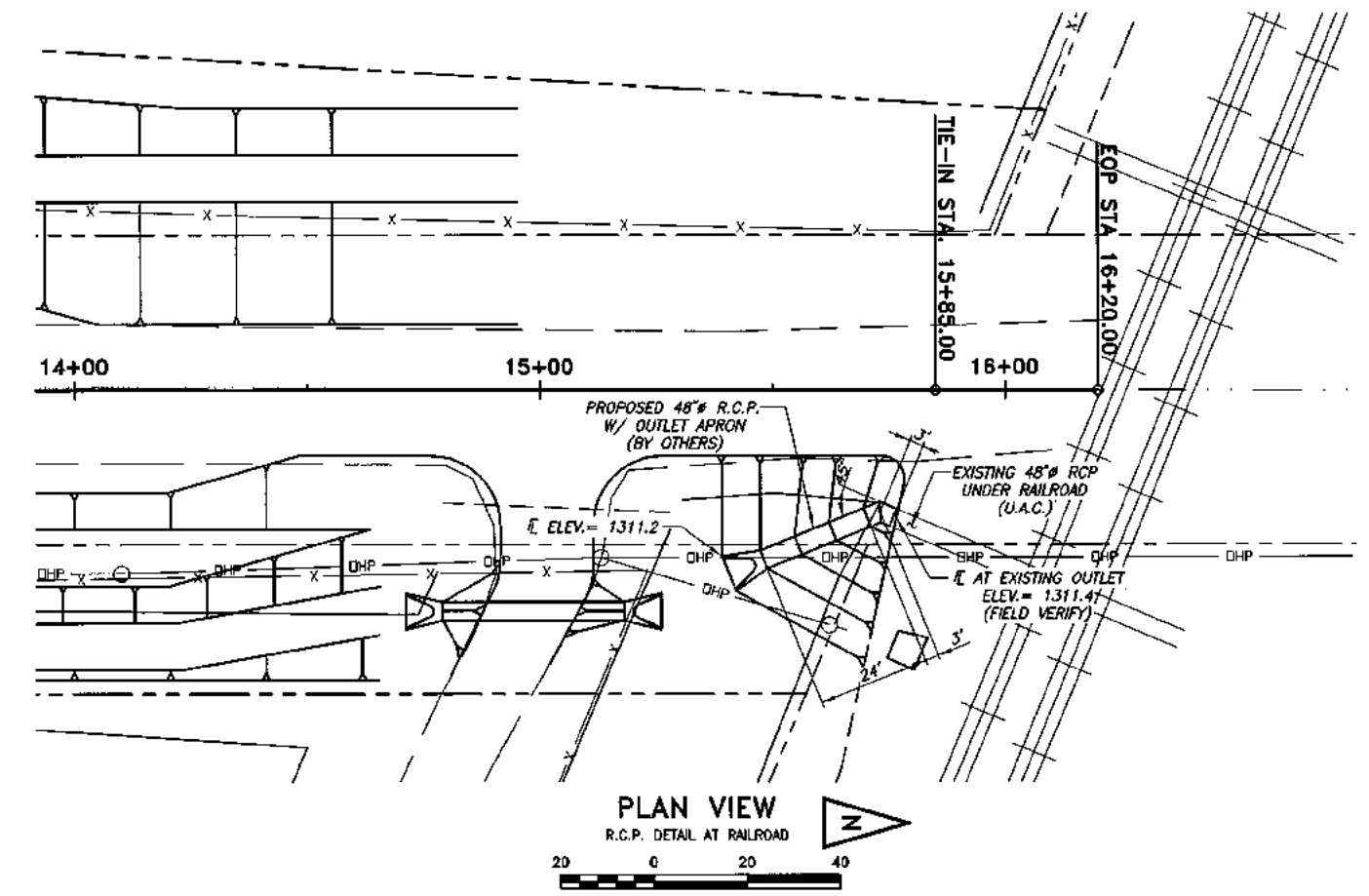
DUE CAUTION IS TO BE USED IN WORKING OVER AND AROUND ALL TILE LINES. BREAKS IN THE TILE LINE DUE TO THE CONTRACTOR'S CARELESSNESS ARE TO BE REPLACED AT HIS EXPENSE WITHOUT COST TO THE OWNER. ANY TILE LINES BROKEN OR DISTURBED BY OUR CUT LINES WILL BE REPLACED AS DIRECTED BY THE ENGINEER IN CHARGE OF CONSTRUCTION AND AT THE OWNER'S EXPENSE.
 ALL PROPOSED DRIVES AND FIELD ENTRANCES SHALL BE CONSTRUCTED WITH A 20' TOP AND 3:1 SLOPES, UNLESS NOTED OTHERWISE.



TYPICAL CROSS SECTION GRADING

NOTES:
 NORMAL SECTION SHOWN MAY BE MODIFIED APPROXIMATELY IN LOCATIONS SPECIFICALLY DESIGNED BY THE ENGINEER.
 SEE CROSS SECTIONS FOR VARIATIONS.

LOCATION		L	R	EX	FS	D%	BS	D	
ROAD IDENT.	STATION TO STATION								
MAINLINE	10+00.00	11+00.00	TRANSITION FROM EXISTING						
MAINLINE	11+00.00	BRIDGE	14.0'	14.0'	3.57	3	2	3	10'
MAINLINE	BRIDGE	15+85.00	14.0'	14.0'	3.57	3	2	3	10'
MAINLINE	15+85.00	16+20.00	BY OTHERS						



PLAN VIEW
 R.C.P. DETAIL AT RAILROAD

125'-0 x 24'-6 CONTINUOUS CONCRETE SLAB BRIDGE

INTEGRAL ABUTMENTS
 38'-0 END SPANS
 MONOLITHIC P10A PIERS
 49'-0 INTERIOR SPAN

TYPICAL SECTIONS AND GRADING NOTES

STATION 12+15.00
 CRAWFORD COUNTY, IOWA
 30' SKEW, LT. AHEAD

TABULATION OF STEEL BEAM GUARDRAIL AT BRIDGE END POST, CONCRETE BARRIER

108-8A
04-19-05

NO.	LOCATION			STATION	CASE	STANDARD ROAD PLAN	LAYOUT LENGTHS					MATERIALS REQUIRED					DELINEATORS AND OBJECT MARKERS			BID ITEMS					REMARKS				
	DIRECTION OF TRAFFIC	End	Side				STS	VT1	VF	VT2	ET	STS		W Beam	Posts 6"x 8"x 7" with 6"x 8" Spacer Blocks	Posts 6"x 8"x 6" with 6"x 8" Spacer Blocks	CRT Posts 6"x 8"x 6" with 6"x 8" Spacer Blocks	Type	Object Marker			Installation of Guardrail	Anchorage and Terminal Systems						
												Thrie Beam	Transition Section						Single White	Type 2	Type 3		RE-33B	RE-69A		RE-69B	RE-69C	RE-76	
1	N.	A	O	12+15.00	A	RE-64B	18.75	-	12.5	-	37.5	25.0	6.25	50.0	6	3	5	1	-	2	1	1	68.75	-	-	-	1	1	SOUTH END, RT.
2	N.	T	O	12+15.00	A	RE-64B	18.75	-	12.5	-	37.5	25.0	6.25	50.0	6	3	5	1	-	2	1	-	68.75	-	-	-	1	1	NORTH END, RT.
3	S.	A	O	12+15.00	A	RE-64B	18.75	-	12.5	-	37.5	25.0	6.25	50.0	6	3	5	1	-	2	-	1	68.75	-	-	-	1	1	NORTH END, LT.

① Lane(s) to which the installation is adjacent.
A = Approach
T = Training

TABULATION OF GRADING FOR GUARDRAIL INSTALLATIONS

107-23
04-19-05

No.	DIRECTION OF TRAFFIC	Station	SIDE	* TYPE	DIMENSIONS										CLASS 10 EXCAV. Δ	EMBANK. IN PLACE	PIPE			REMARKS								
					①		②		①	②	③	④	⑤	⑥			⑦	⑧	⑨		⑩	Size	Type	Length				
					A	T	A	T																	Cu.Yds.	Cu.Yds.	Inches	Lin.Ft.
1	N.	10+73.71	RT.	2	7.4	-	48	-	16.4	2.1	-	-	-	-	66.1	7.4	45	-	-	-	-	-	-	-	-	-	-	S. END, RT.
2	N.	13+42.43	RT.	1	-	7.4	-	106**	16.4	2.1	-	-	-	-	66.1	7.4	82	-	-	-	-	-	-	-	-	-	-	N. END, RT.
3	S.	13+56.29	LT.	1	7.4	-	48	-	16.4	2.1	-	-	-	-	66.1	7.4	85	-	-	-	-	-	-	-	-	-	-	N. END, LT.

Δ INCLUDES 35% FOR SHRINKAGE
* SEE CROSS SECTIONS FOR MAXIMUM SLOPE.
** SEE SITUATION PLAN, SHEET 3, FOR MODIFICATION OF GUARDRAIL SHAPING.

TABULATION OF EROSION CONTROL FEATURES

100-19
11-10-83

LOCATION		SIDE	TYPE OF WORK					REMARKS	
STATION OR STATION TO BE DETERMINED BY THE ENGINEER	L OR R		FOR DITCH CHECK		SILT BASIN (NO.)	SILT DIKE (LIN.FT.)	SILT DITCH (LIN.FT.)		SILT FENCE (LIN.FT.)
			SILT FENCE (LIN.FT.)						
10+60.00	11+40.00	R	-	-	-	-	-	100	-
10+90.00	-	L	20	-	-	-	-	-	-
12+40.00	-	R	20	-	-	-	-	-	-
12+90.00	-	L	20	-	-	-	-	-	-

POINTS OF ACCESS (RL-7)

102-1
10-21-03

LOCATION (RL-7)		TYPE	H	SIZE (INCHES)	LENGTH		APRON (NO.)	SURFACE MATERIAL (TONS)	
STATION	SIDE				LT.	RT.			
11+30.00	LT.	50	C	1.5	18	35.5	40.0	#1	53
15+00.00	RT.	20	C	2.0	48	26.0	26.0	2	17

* APRON TO BE LOCATED AT INLET ONLY.

REMOVAL OF EXISTING STRUCTURES

110-2
10-13-72

LOCATION	DESCRIPTION	DISPOSAL
11+40.00, 28' LT.	18" x 48" C.M.P. *	CONTRACTOR
12+10.00	50' x 18' PONY TRUSS	CONTRACTOR
12+60.00, 28' RT.	30" x 52' R.C.P. *	CONTRACTOR
15+00.00, 25' RT.	48" x 52' R.C.P. *	CONTRACTOR

* INCIDENTAL TO CLASS 10 ROADWAY & BORROW

SUMMARY OF EARTHWORK

STATION	AREAS IN SQ. FT.		VOLUMES IN CU. YDS.				
	CUT	FILL	CUT	ADD'L CUT	FILL	ADD'L FILL	FILL+35%
10+00.00	0	0	0		67		90
11+00.00	0	36	6	74	41	144	250
11+30.00	11	38		Δ1,582		31	42
BRIDGE				390		44	60
12+90.00	285	92	102		39		51
13+00.00	268	111	748		626	124	1,012
14+00.00	136	227	548		802	236	1,401
15+00.00	160	206	102		194		262
15+25.00	61	212	50	22	192		260
15+50.00	48	203	72		152		205
15+85.00	63	30					
TOTAL			1,628	2,068	2,112	579	3,633

* BORROW
Δ CLASS 10 CHANNEL

TRAFFIC CONTROL PLAN

THE PROJECT ROUTE WILL BE CLOSED TO TRAFFIC. TRAFFIC CONTROL DEVICES, PROCEDURES, LAYOUTS, SIGNING, AND PAVEMENT MARKINGS INSTALLED WITHIN THE LIMITS OF THIS PROJECT SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" AS ADOPTED BY THE DEPARTMENT PER 761 OF THE IOWA ADMINISTRATIVE CODE (IAC) CHAPTER 130.

SAFETY CLOSURES SHALL BE PLACED IN ACCORDANCE WITH SECTION 2518 OF THE STANDARD SPECIFICATIONS AT THE LOCATIONS SPECIFIED IN THE "TABULATION OF SAFETY CLOSURES".

THE CRAWFORD COUNTY MAINTENANCE SHALL SALVAGE ALL ROAD MARKERS AFTER ROAD IS CLOSED.

THE BID ITEM "TRAFFIC CONTROL" SHALL INCLUDE THE COST FOR ALL TRAFFIC CONTROL MEASURES REQUIRED OF THE CONTRACTOR EXCEPT FOR THOSE WHICH ARE SEPARATE BID ITEMS OR ARE INCIDENTAL TO OTHER BID ITEMS.

THE GUARDRAIL INSTALLATION MUST BE COMPLETED BEFORE THE ROAD IS OPENED TO TRAFFIC.

ALL CONTRACTOR FURNISHED TRAFFIC CONTROL SIGNS USED ON THIS PROJECT SHALL BE SHEETED WITH ENCAPSULATED LENS SHEETING.

TYPE "C" STEADY BURN WARNING LIGHTS ARE NOT REQUIRED FOR VERTICAL PANELS, BARRICADES, AND DRUMS WHEN THESE TRAFFIC CONTROL DEVICES ARE SHEETED WITH ENCAPSULATED LENS SHEETING.

TABULATION OF SAFETY CLOSURES

108-13A
10-28-97

Refer to Section 2518 of the Standard Specifications

STATION	CLOSURE TYPE		REMARKS
	Road Qty.	Hazard Qty.	
Δ 10+50	1	-	SOUTH END
17+50	1	-	NORTH END

Δ SAFETY CLOSURE SHALL BE RELOCATED AS NECESSARY TO COMPLETE FINAL GRADING IN THE AREA OF THE INTERSECTION. THIS WORK SHALL BE INCIDENTAL TO THE BID ITEM "SAFETY CLOSURE".

125'-0 x 24'-6 CONTINUOUS CONCRETE SLAB BRIDGE

INTEGRAL ABUTMENTS
38'-0 END SPANS

MONOLITHIC P10A PIERS
49'-0 INTERIOR SPAN

TABULATIONS

STATION 12+15.00
CRAWFORD COUNTY,

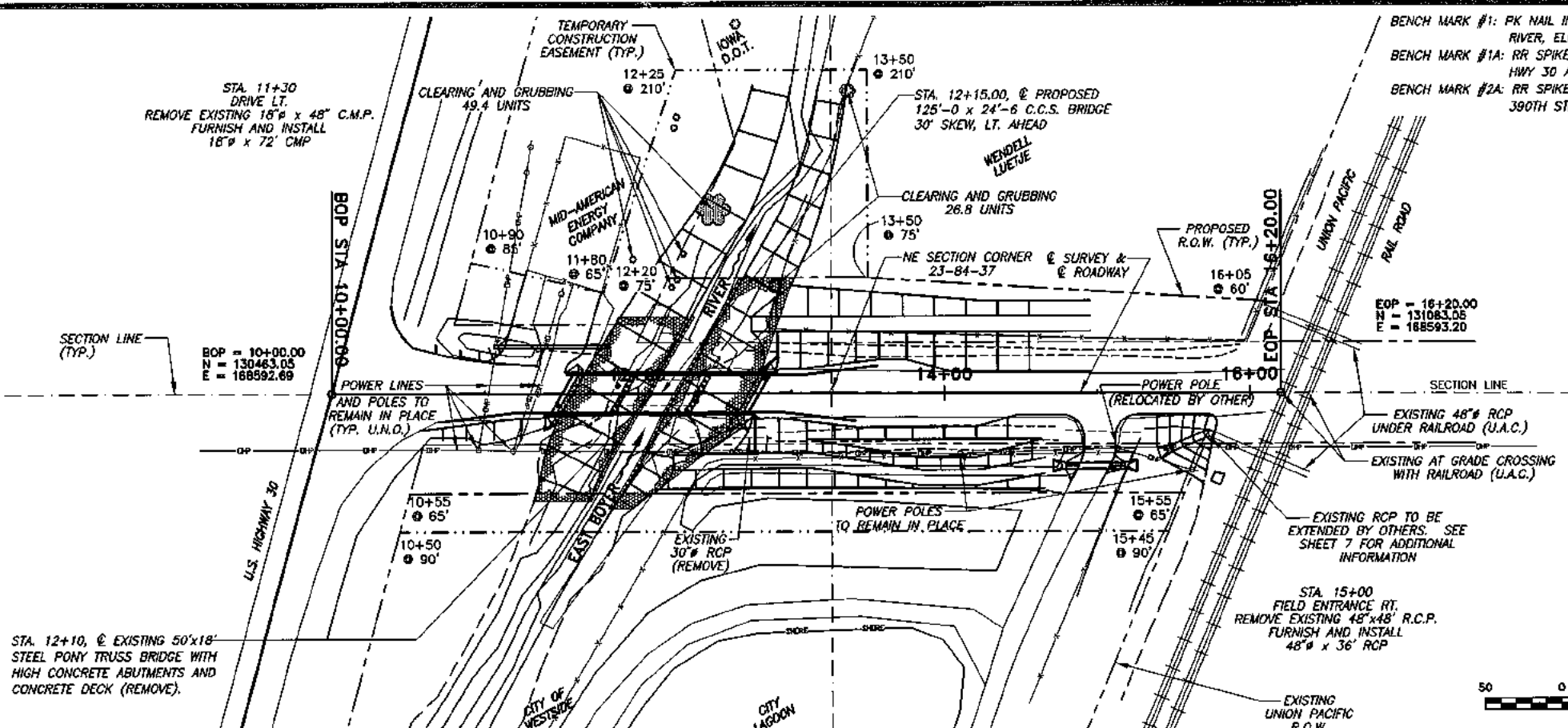
30' SKEW, LT. AHEAD
IOWA

WESTSIDE TWP.
T 84 N, R 37 W
SECT. 23

WESTSIDE TWP.
T 84 N, R 37 W
SECT. 14

WESTSIDE TWP.
T 84 N, R 37 W
SECT. 24

WESTSIDE TWP.
T 84 N, R 37 W
SECT. 13

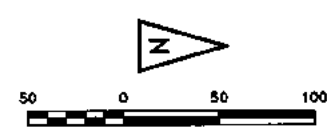


BENCH MARK #1: PK NAIL IN SW WINGWALL OF 390TH STREET BRIDGE OVER EAST BOYER RIVER, ELEV.= 1317.74
 BENCH MARK #1A: RR SPIKE IN POWER POLE, AT NORTHEAST CORNER OF INTERSECTION OF HWY 30 AND 390TH STREET, ELEV.=1314.73
 BENCH MARK #2A: RR SPIKE IN FIRST POWER POLE, NORTH OF BRIDGE, EAST SIDE OF 390TH STREET, ELEV.= 1313.37

SECTION LINE (TYP.)
 BOP = 10+00.00
 N = 130463.05
 E = 168592.69

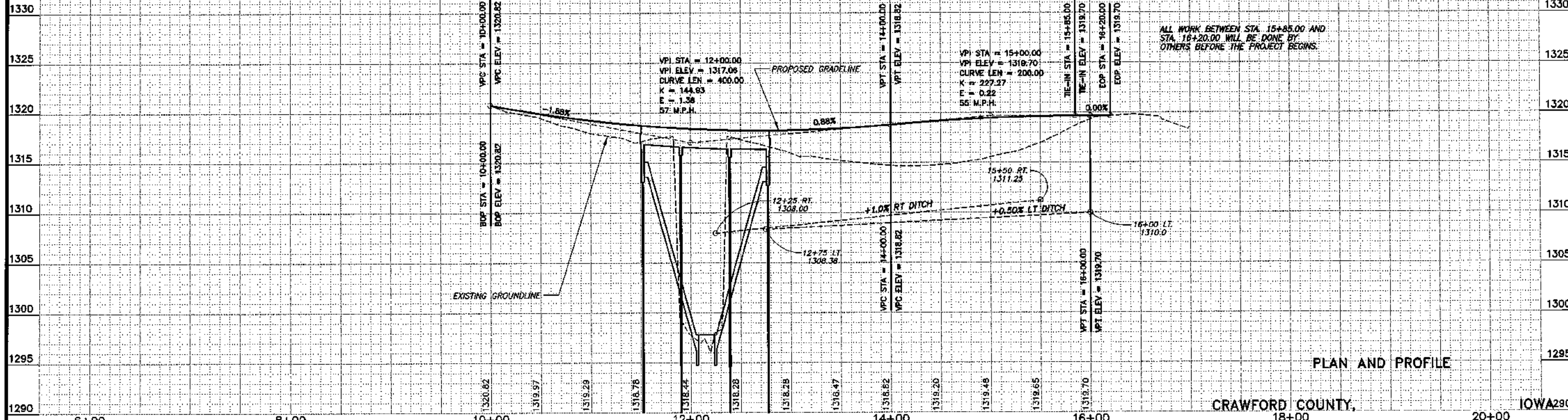
EOP = 16+20.00
 N = 131083.05
 E = 168593.20

STA. 12+10, @ EXISTING 50'x18' STEEL PONY TRUSS BRIDGE WITH HIGH CONCRETE ABUTMENTS AND CONCRETE DECK (REMOVE).



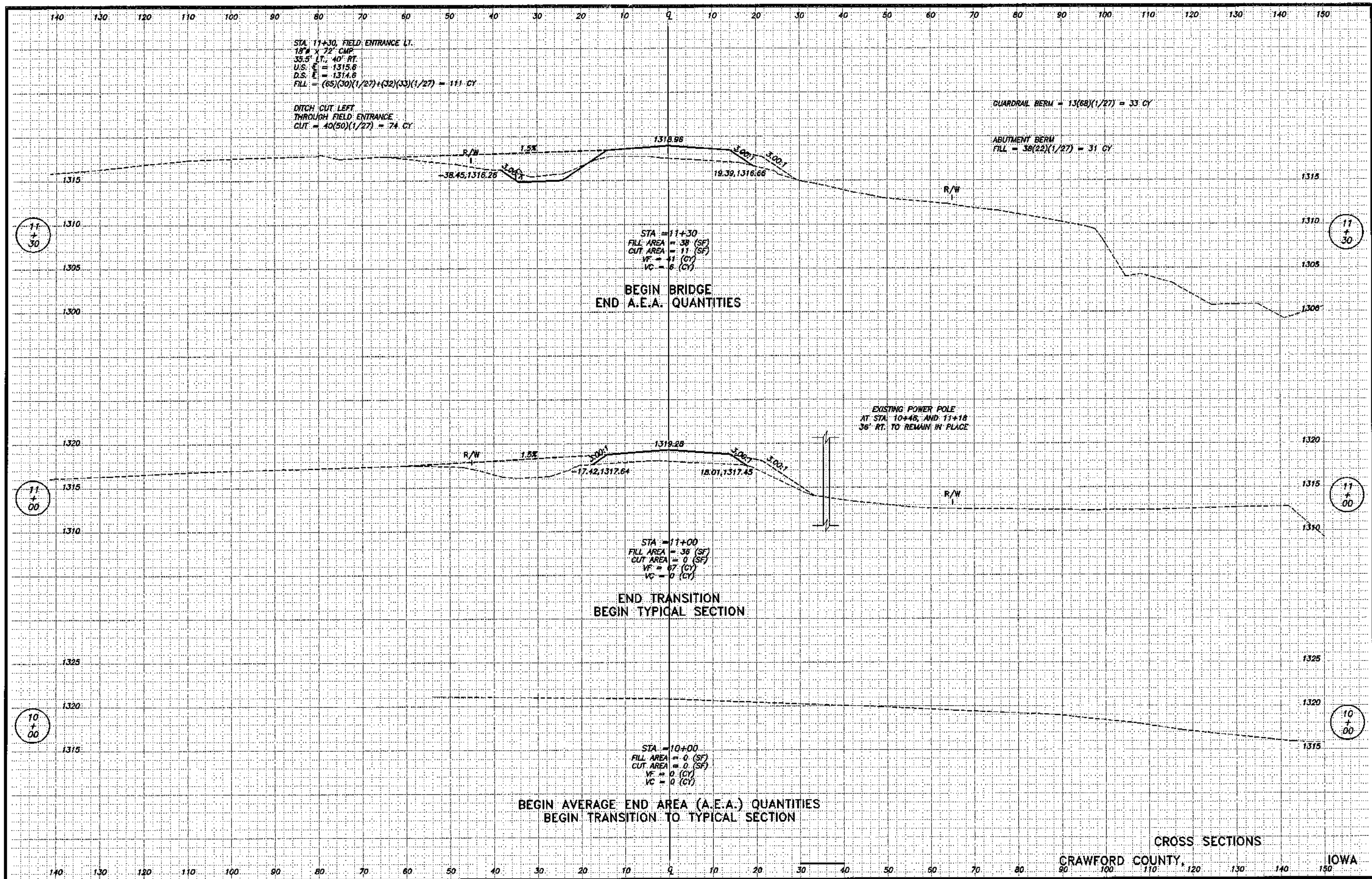
SEE SITUATION PLAN FOR ADDITIONAL INFORMATION.

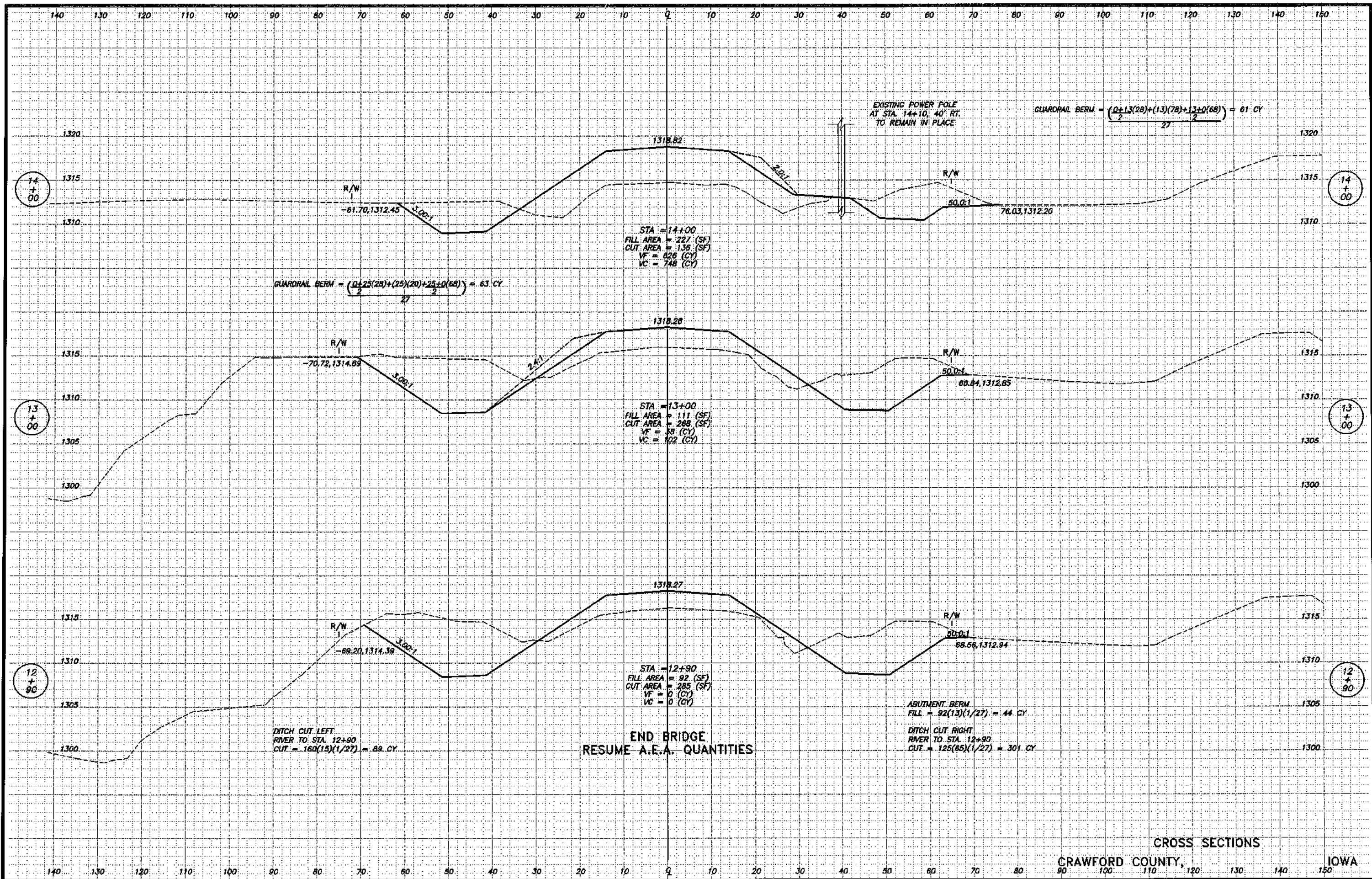
STATION	CUT		FILL +35%		BRIDGE		CUT		FILL +35%	
	ITEM	CY	ITEM	CY	ITEM	CY	ITEM	CY	ITEM	CY
1335	CUT		FILL				CUT		FILL	
	ADD'L DITCH EXCAVATION	6	ABUTMENT BERM	148			ADD'L DITCH EXCAVATION	1,622	ABUTMENT BERM	2,705
	CHANNEL EXCAVATION	74	GUARDRAIL BERM	42			CHANNEL EXCAVATION	412	GUARDRAIL BERMS	59
	HAUL TO N. SIDE	-457	ENTRANCE	150			HAUL FROM S. SIDE	457	ENTRANCE	167
	TOTAL	363	TOTAL	383			TOTAL	3,250	TOTAL	3,250



PLAN AND PROFILE

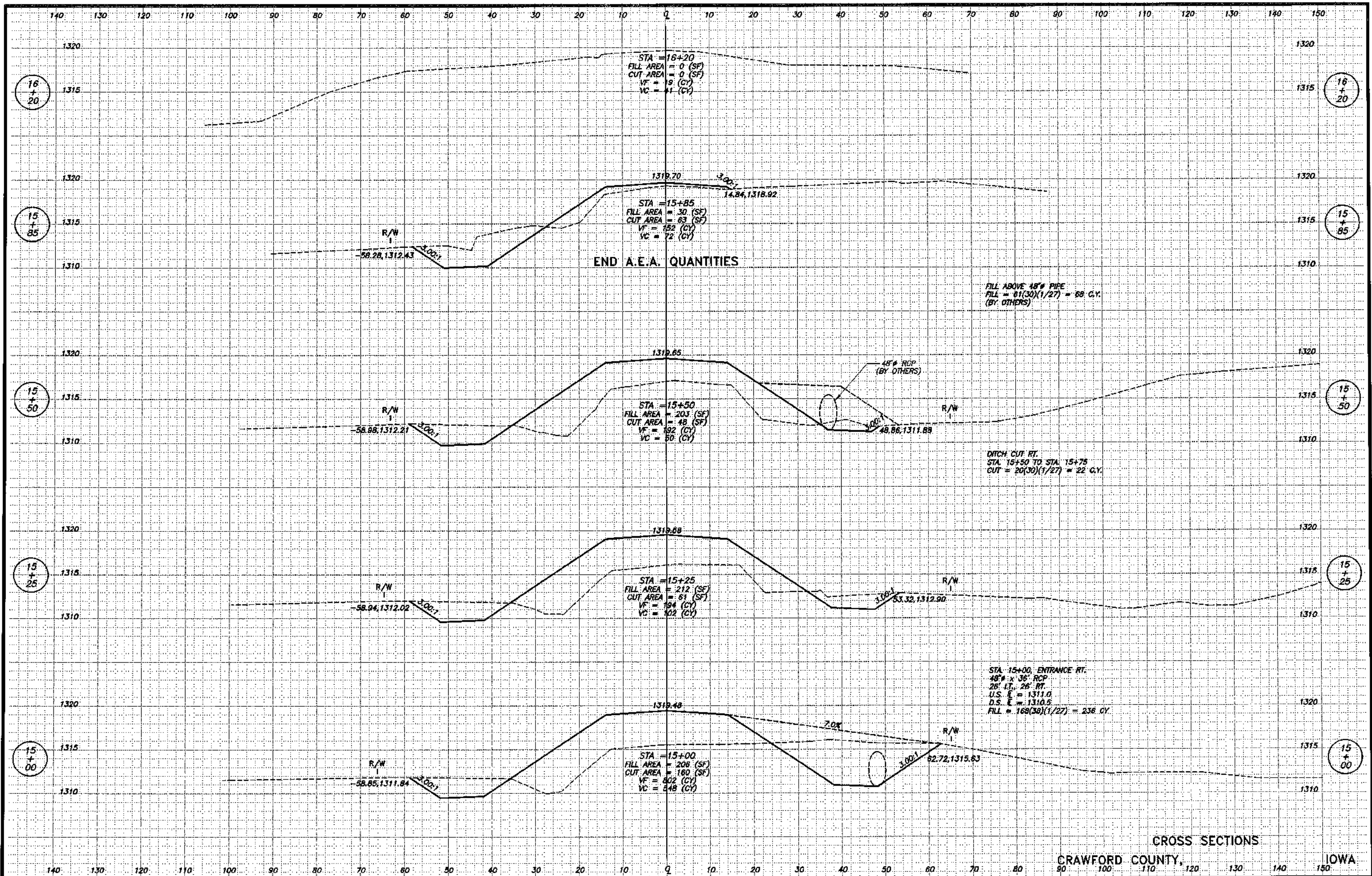
CRAWFORD COUNTY, IOWA 290





CROSS SECTIONS

CRAWFORD COUNTY, IOWA



CROSS SECTIONS

CRAWFORD COUNTY, IOWA